Q SHIP VS U-BOAT

1914–18

DAVID GREENTREE

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INTRODUCTION

Rear Admiral William Sims, head of the US Navy in Europe during World War I, was full of praise for Q ships; after the duel between *Dunraven* and *UC 71* Sims wrote to Commander Gordon Campbell, stating 'I know nothing finer in naval history' (quoted in Bridgeland 1999: 112). (Cody Images)

In 1914 Britain's Royal Navy was completely unprepared to tackle Germany's U-boats. Thanks to their ability to submerge and stalk their adversary unseen, submarines represented a new and particularly potent threat. Before the war Winston Churchill, the First Lord of the Admiralty (the politician in charge of the Royal Navy) and Admiral of the Fleet John 'Jacky' Fisher, the former First Sea Lord (the Royal Navy's professional head) had both warned of the danger posed by the submarine. Although Churchill spoke of it in 1912 as 'a characteristic weapon for the defence', he also noted that the Germans were building 'larger classes which would be capable of sudden operation at great distance from their base' (quoted in Lake 2006: 32–33). Indeed, the submarine's ability to defeat surface vessels was starkly illustrated on 22 September 1914, when three British cruisers – *Aboukir*, *Hogue* and *Cressy* – were sunk in quick succession by one U-boat, *U 9*.

While aware of the threat to warships, Churchill thought using torpedoes or even gunfire without warning to sink merchantmen crewed by civilian seamen 'would never be done by a civilised power' (quoted in Lake 2006: 33). The Prime Minister, H.H. Asquith, concurred. There were others, including Fisher, who had a different view and in July 1914 the retired Royal Navy officer Admiral Percy Scott warned the British public that the U-boat 'introduced a new method of attacking [our] supplies' (quoted in Botting 1979: 19). But they were in a minority. Overall, there was a lack of foresight about how Germany could use U-boats in a war on commerce, in part because of the presumption about their adversary's moral stance, but also because there was no appreciation of how long the conflict would last and how important attacking commerce would become.

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Although, as this postcard suggests, Q ship operations would sometimes be seen in a slightly comical light by the British public, the reality was very different. Q ship service was unlike any other and not for the faint-hearted. Trust between crewmen and captain had to be unquestioning, and discipline needed to be of the highest order. (Malcolmson)

Luckily for the British, the Germans initially also thought the optimal use of the U-boats was in a fleet action – to sink naval surface ships. Germany had been relatively slow to develop submarines, and even after the war started German leaders were reticent about allowing U-boats to attack merchant ships without warning – especially those from neutral countries trading with Britain, and in particular the United States – and initially ordered U-boat commanders to check manifests and allow merchant crewmen to take to lifeboats before sinking their ship. According to Prize Regulations, a U-boat encountering a merchantman was under an obligation to stop it, if necessary by putting a shot across its bows, and inspect its papers; if it proved to be an enemy ship, crew and passengers should be allowed to gather possessions and escape in lifeboats before the vessel was sunk. However, to follow this procedure was to throw away a U-boat's main advantage – surprise.

This approach enabled the submarine threat to be countered with ships whose outward appearance was that of merchantmen, but which kept hidden an arsenal of weapons that would be brought into action when a U-boat surfaced. These were the Q ships, a name that possibly originated from Queenstown, the Irish port where many were based. (The 'Q' designation was only officially used in late 1916; before then the Admiralty called them 'decoy vessels', and they were also known as 'Mystery Ships'.) Q ships gradually evolved throughout the war, but their design always focused on one aim – to deceive, trap and destroy U-boats. Weapons were hidden to offer up a seemingly irresistible unarmed target; while proceeding harmlessly alone along shipping routes where submarines were known to be operating, the Q ship

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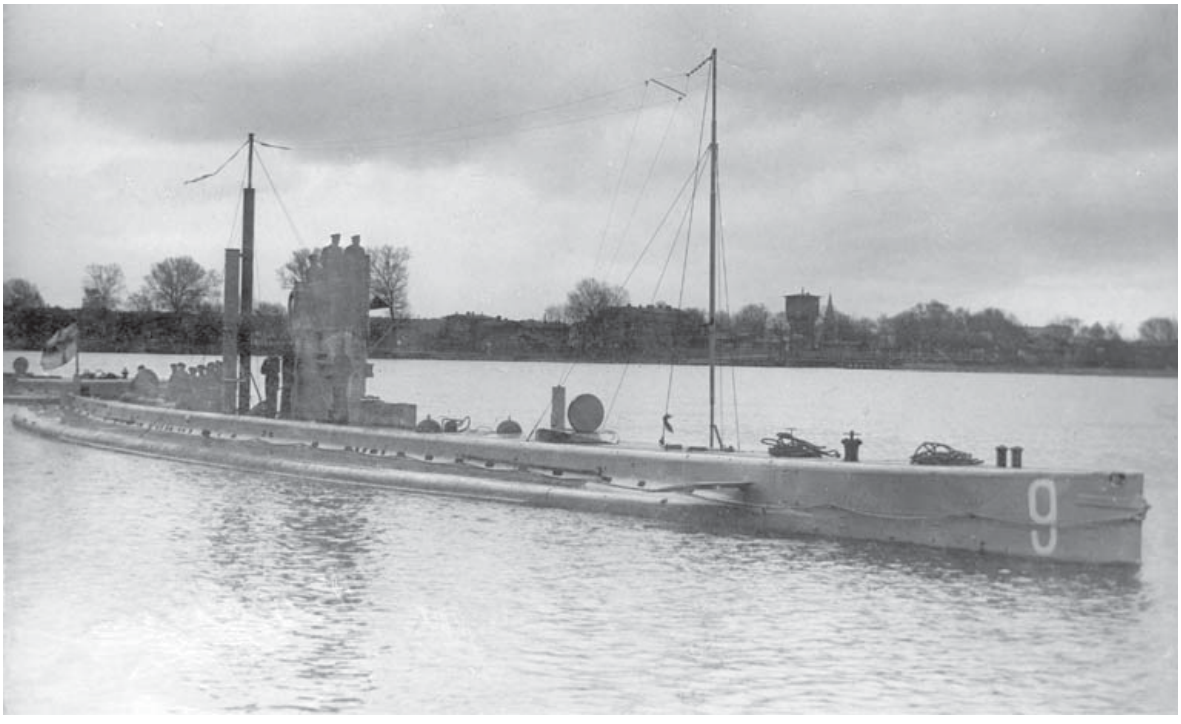
sought to lure unsuspecting U-boats commanders to the surface. Once the bait was taken and the submarine, surfaced and stopped close to the ship, was at its most vulnerable, the guns would be revealed. Such inventiveness appealed to Churchill, and he was a keen supporter.

The ability to lure a U-boat convincingly required unique training. After his vessel was attacked, a Q ship captain would launch a 'panic crew' to act out an elaborately amateurish evacuation in order to convince the U-boat commander that the ship had been abandoned by a civilian crew, while he and others remained hidden on board, manning the guns. The suddenness and unexpectedness of a submarine attack, which could happen at any time, rested particularly heavily on sailors' minds – especially on board Q ships, as their mission was to provoke an attack. If the crew successfully sank a U-boat, the rewards were high – the Admiralty paid a £1,000 bounty to the crew, and awards for gallantry were prolifically distributed. As the Allies condemned the sinking of merchantmen, the Germans condemned Q ships as a crude pretence contrary to the rules of warfare. Encounters could be bitter with little quarter given. In the early days Q ship crews could be unruly and may have attracted some mavericks. In 1915 this may have contributed to the apparent massacre of U-boat crewmen by the crew of *Baralong*, but this incident was not typical of encounters.

The Q ships' heyday would be the period before January 1917, when Prize Regulations were generally abided by and submarine commanders were often caught unawares. The number of encounters was few, but many were effective – in 32 engagements, nine U-boats would be sunk for two Q ships lost. After the subterfuge became well known, experienced U-boat commanders would learn to monitor their quarry before engaging. Q ship captains, when torpedo attacks were ordered without warning and their ships



U 9 was severely hampered by its kerosene engine, which limited its range to the North Sea. Oberleutnant zur See Johann Spiess, a watch officer on board, described how 'we sailed on the surface with a column of kerosene smoke towering over us. We were almost as visible as a belching steamer' (quoted in Lowell 2002: 12). Spiess took over as commander on 12 January 1915 and sank 13 ships before the boat was relieved from front-line service in April 1916. (Bundesarchiv Bild 134-B0534 Foto: o. Ang)

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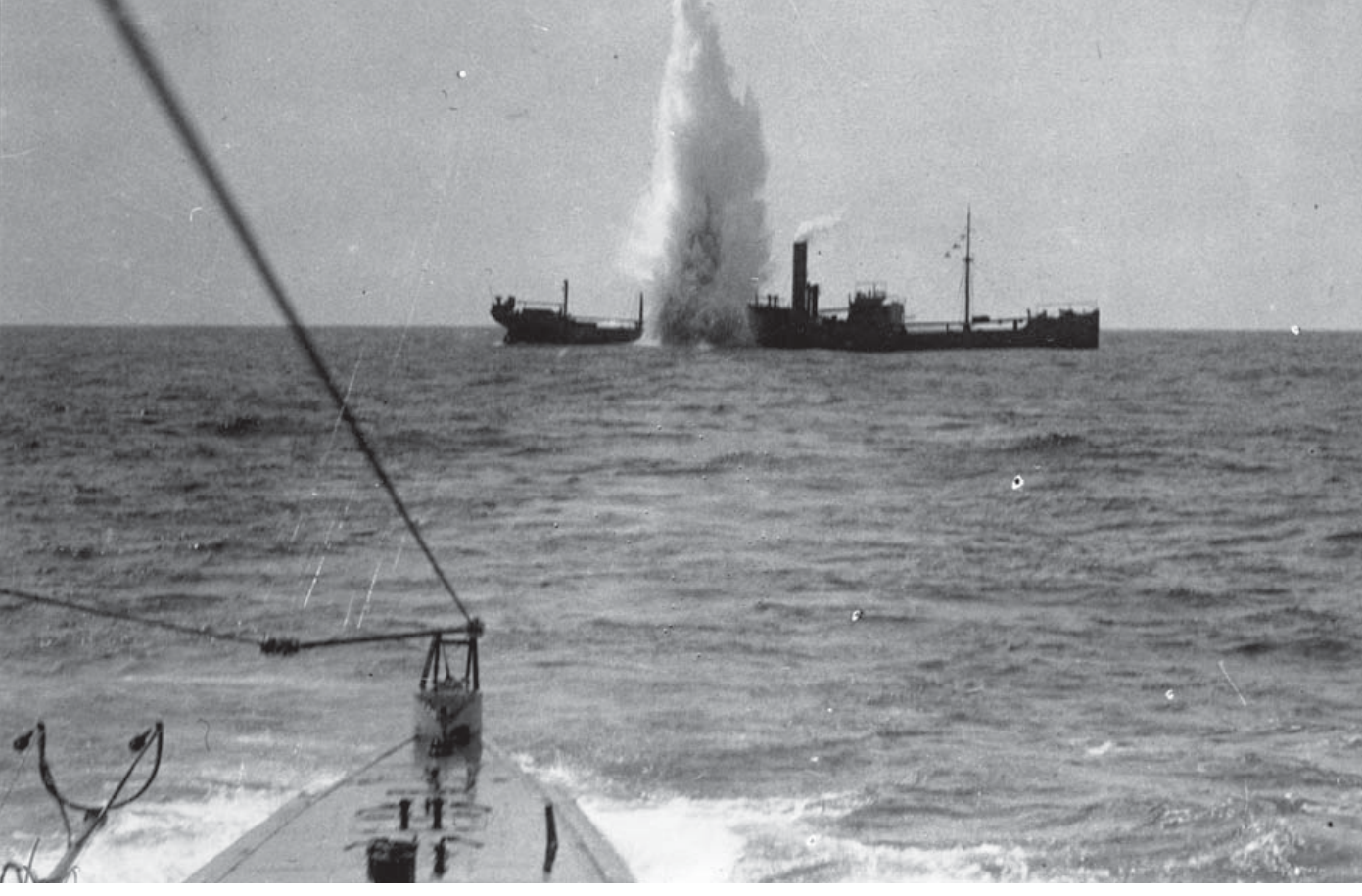

made a high-priority target, would also change their approach. The number of encounters rose dramatically: from February 1917 until the end of the war over 100 engagements would occur, but only three U-boats would be sunk for 23 Q ships lost. Q ships sank no U-boats after June 1917; the fight against the submarine would instead be won by the Entente's adoption of convoys and technological developments. The number of submarines sunk mattered less than the survival rate of merchant ships – and here, convoys made all the difference. By 1918 Q ships would be eclipsed, but not without having made an important contribution to reining in the U-boat in the early years of World War I.

Here a submarine has intercepted a steamer. Because the U-boat danger to merchant ships had not been appreciated, the technology for finding and combating them was undeveloped, and Q ships were practically the only available effective method of engaging them. The long, drawn-out process U-boats went through when intercepting merchant ships gave Q ships realistic opportunities to strike back. (Bundesarchiv Bild 102-00159 Foto o.Ang)

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CHRONOLOGY

1914

4 August Germany begins the war with only 20 U-boats available.

November Germany declares unrestricted warfare against British shipping.

26 November Churchill sends the order that inaugurates the Q ship era.

1915

January Smaller UB-class U-boats start arriving and UC-class U-boats are ordered.

5 February Kaiser Wilhelm II orders the sinking of all merchant ships around the British Isles.

April UB-class U-boats begin operations in the Channel.

June Minelaying UC-class boats are operational from Zeebrugge and Ostend.

6 June In response to the sinking of RMS *Lusitania*, U-boats are ordered to use the gun rather than a torpedo to sink ships.

23 June *U 40* sunk by British submarine *C24*, working with the trawler *Taranaki*.

20 July *U 23* sunk by British submarine *C27*, working with the trawler *Princess Louise*.

24 July *Prince Charles* sinks *U 36*.

19 August *Baralong* sinks *U 27*; Germany accuses the British crew of atrocities.

18 September Orders are given to U-boats to end unrestricted warfare. High Seas Fleet withdraws U-boats from the commerce war.

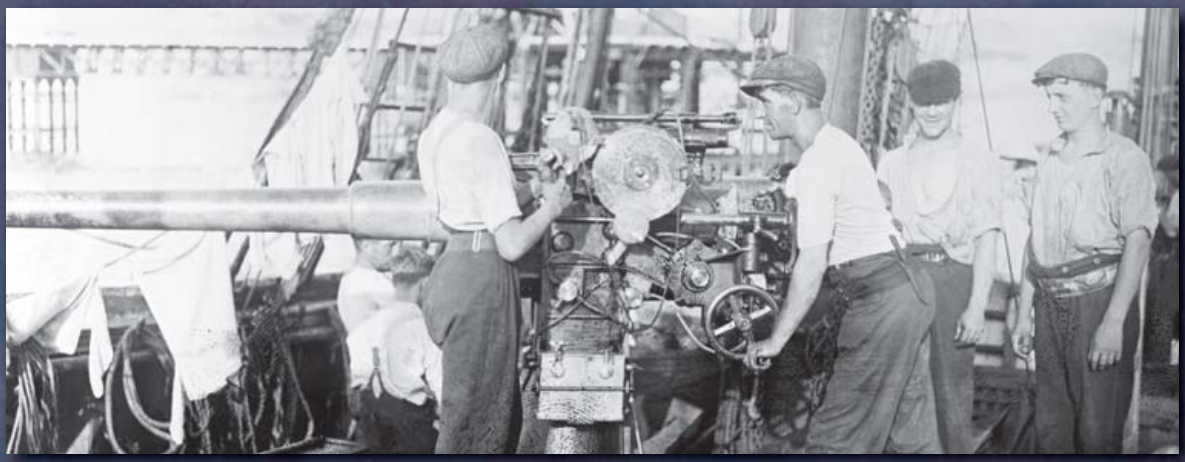
24 September *Baralong* sinks *U 41*.

November UB II- and UC II-class U-boats start operations.

1916

4 March The Kaiser agrees to a resumption of unrestricted warfare on 1 April.

22 March *Farnborough* sinks *U 68* by a combination of gunfire and depth charges.



After the decision to engage had been made, each Q ship engagement with a U-boat was a contest in gunnery, and the proficiency of the crews would be tested to the full. Here, Q ship gunners in civilian attire man a 12-pdr gun on the Q sailing ship *Brig 2*. [© IWM SP 2280]

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25 April Tirpitz withdraws U-boats from the commerce war.

4 May Germany pledges that merchant ships will not be sunk without provision first being made for the safety of the crew and passengers.

July German submarines start using the 10.5cm deck gun at 6,000yd; the 12-pdr gun on the Q ship is outranged and outgunned, leading to the installation of 4in guns on board more Q ships.

20 July Introduction of War Service badges for Q ship crewmen.

August *U 81*-class U-boats, armed with ten torpedoes and with a 7,630-mile range, start to appear.

September U-boats resume commerce war under Prize Regulations and are told to spare neutrals.

30 October 119 U-boats and 47 Q ships (ranging from motor drifters to steamers) are now in commission.

30 November *Penshurst* sinks *UB 19*.

1917

January Initial order for Flower-class sloops is made by the British Admiralty.

9 January The Kaiser approves an unrestricted campaign against shipping, starting on 1 February, to defeat Britain before the United States enters the war.

14 January *Penshurst* sinks *UB 37*.

17 February *Farnborough* sinks *U 83*.

March Rear-Admiral Lewis Bayly concludes that U-boats are now torpedoing without warning more often than employing their guns, which if used at all are fired from long range.

6 April United States declares war on Germany.

May Entente Powers introduce convoy system; Flower-class sloops and PQ boats in particular are used to invite U-boat attack at the back of the convoy.

June UB III-class U-boats, which carry ten torpedoes, start operations.

7 June *Pargust* sinks *UC 29*.

13 July Q ship/submarine combinations are again approved.

August 72 Q ships are either in use or fitting out.

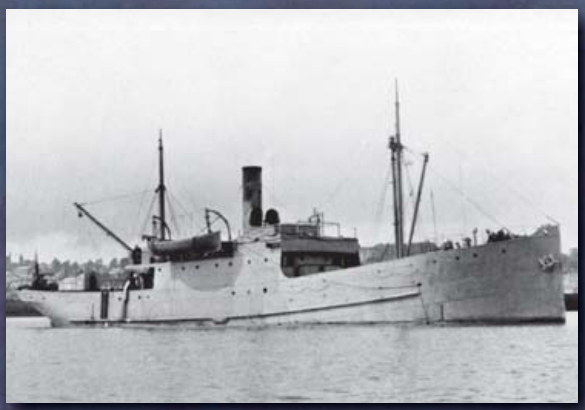
8 August *Dunraven* engages *UC 71*.

28 August Conference on the future role of Q ships relegates Convoy sloops and PQ boats to convoy work, and rules that only steamers under 500 GRT (gross registered tonnage) and sailing ships should be commissioned as new Q ships.

1918

23 January Convoy sloops and PQ boats are no longer used as Q ships.

15 October All 179 operational U-boats are ordered to return to harbour.



HMS *Privet* was originally built as the merchant ship *Island Queen* but was taken up as a Q ship in 1916. On 12 March 1917 a torpedo passed beneath her engine room while she was on her way to Alderney, and then a surfaced submarine started shelling from 1¼ miles away. After the U-boat had scored five hits with nine shells, Lieutenant-Commander C.G. Matheson unveiled his guns and won a gunnery duel, despite the long range. *Privet* was towed back to Plymouth, but sank close to shore; she was recovered and was operational again in April 1918. (Cody Images)

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DESIGN AND DEVELOPMENT

U-BOATS

ORIGINS

In 1914, Germany had only 26 commissioned U-boats (including *U 1*, *U 2*, *U 3* and *U 4*, experimental boats used for training), with another 15 in production, and regarded submarines as a novelty without much strategic importance. Vizeadmiral Alfred von Tirpitz, since 1897 the secretary of state for the Reichsmarineamt (Imperial Naval Office), had initially been a reluctant supporter; in 1901 he stated that the Kaiser had no need of them, and said: 'I refused to throw money away on submarines so long as they could only cruise in home waters' (quoted in Gray 1994: 31). Only in December 1906, comparatively late among European countries, was the first U-boat completed – *U 1*, equipped with one torpedo tube in the bow and able to dive but slowly, and even then it was confined to coastal waters. In 1907 the prototype completed sea trials, and Tirpitz released funds the following year to build more. By the end of 1912 *U 2* to *U 18* had been ordered.

These early models – typically 188ft long, displacing 493 tons and crewed by four officers and 24 men – used kerosene engines on the surface that left a trailing tower of oily smoke behind them, which helped the British to be sanguine about the U-boat threat

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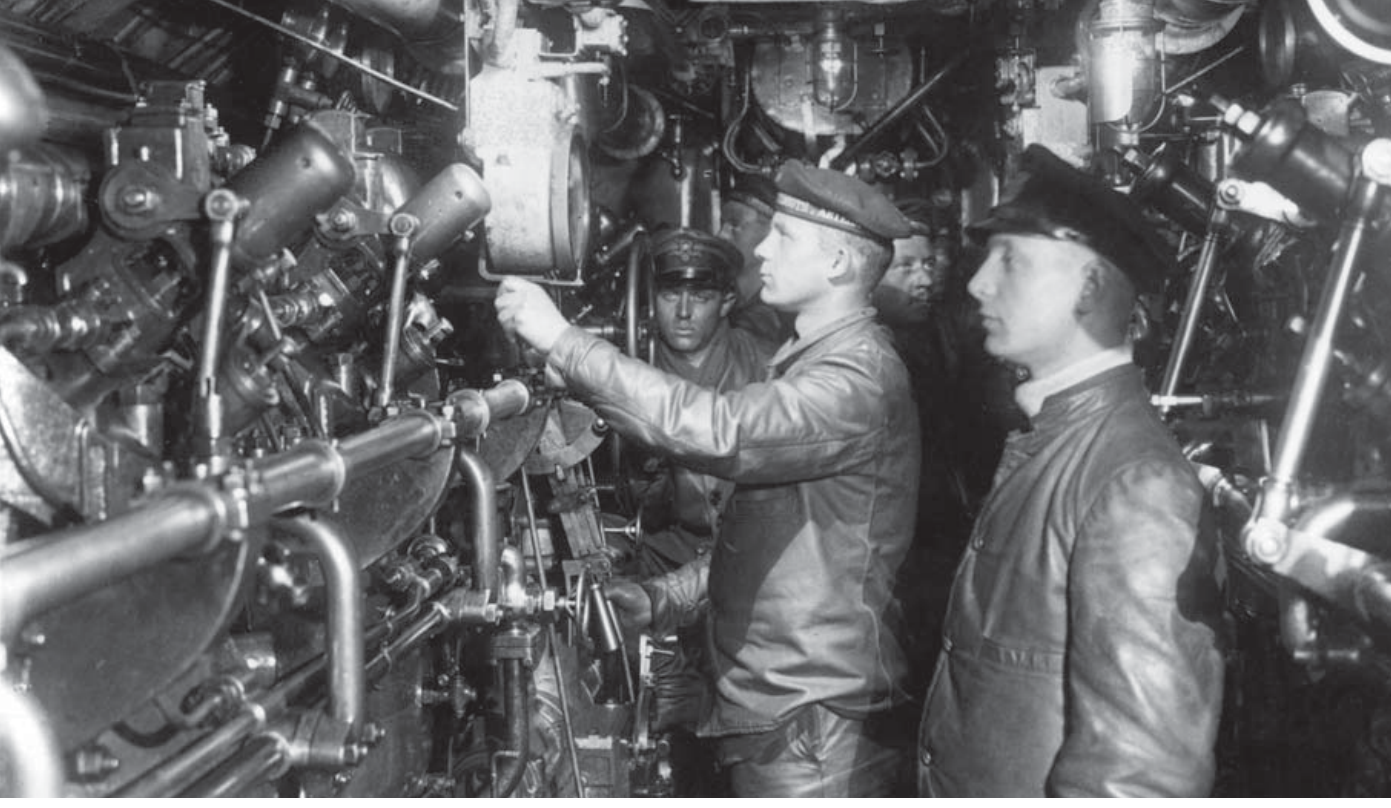

German submariners at work in the engine room, which produced a continuous whirring noise, and lay to the aft of the control room. Behind this, another room in the submarine housed the motors. Ballast tanks let in water to dive, while hydroplanes and engines propelled her down. German boats were more cramped than British boats because of their double hull, which almost halved the working space available. Torpedo rooms in the bow and stern took up one-third of the vessel's interior space, and the engines one-half; the crew lived in whatever space remained. The electric batteries needed for moving while submerged had to be recharged from time to time by the diesel engines, which meant surfacing, but most time was spent on the surface, with diving only occurring when attacking or in danger. Because an outer hull was wrapped around the cylindrical pressure hull, U-boats could remain trim on the surface in bad weather. (Cody Images)

(12 of them would be lost during the war). A pair of torpedo tubes was mounted in the stern and two more in the bow, and the submarine operated with them loaded. Two spares were carried for the bow tubes. Speed on the surface was 14kts, submerged 8kts.

In 1910, Germany ordered submarines with diesel engines, which ran without emitting black smoke and made U-boats capable of a 5,000-mile ocean-going round trip; by 1913 the first of these new boats were ready. However, their envisaged role was still defensive: they were to remain submerged and – with torpedoes – ambush British surface ships that were pursuing retreating German destroyers in Heligoland Bight. In August 1914, 24 were based at Heligoland to defend the *Hochseeflotte* (High Seas Fleet), 30 miles away on the River Jade. Not until October 1914 – when *U 20*, commanded by Kapitänleutnant Otto Dröscher, became the first German submarine to circumnavigate the British Isles – did Korvettenkapitän Hermann Bauer, who served as *Führer der Unterseeboote* (Commander of Submarines) until June 1917, realize the U-boat's potential for commerce war, and how submarines 'possessed far greater powers of endurance than had been credited to them' (quoted in Gibson 2002: 21–22).

MOVING TO THE OFFENSIVE

In his memoirs, Admiral Reinhard Scheer, the former *Chef des Admiralstab der Kaiserlichen Marine* (Chief of the Naval Staff of the Imperial German Navy), described how 'from being merely a coastal defence machine, as was originally planned, they became a very effective long-range weapon'. He asserted that after Britain announced the blockade of Germany, 'we had to realize what means we had at our disposal to defend ourselves against this danger' (quoted in Tarrant 1989: 11). Up until then U-boats were conforming to Article 112 of the German Naval Prize Regulations. The High Seas Fleet command now advocated an unrestricted campaign on commerce, arguing that 'the gravity of the situation demands that we should free ourselves from all

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U-BOAT TYPES

U 31 CLASS (*U 36*)

U 36 was 212ft in length, with a beam of 21ft and a keel-to-deck depth of 11ft 7in. The interiors of the forward and stern torpedo rooms, as well as the conning tower, control room and engine room, can be seen in cutaway. The boat displaced 800 tons and carried six torpedoes, which could be fired from two bow and two stern tubes, and was manned by a crew of 35. Two diesel engines each produced 1,700hp and operated the twin propellers, allowing a maximum speed of 16.4kts on the surface. Speed submerged was 9.7kts. Unusually, *U 36* carried two 8.8cm deck guns instead of the single gun that normally equipped this class. Launched on 6 June 1914 and commissioned on 14 November 1914, *U 36* in two patrols sank 14 ships and captured three, before being sunk by *Prince Charles* on 24 July 1915. In all, 11 boats of this type were commissioned.

U 51 CLASS (*U 53*)

U 53 was 204ft 1in long, with a beam of 21ft 2in. The interiors of the conning tower, control room and battery room can be seen in cutaway. The boat displaced 902 tons submerged and carried six torpedoes capable of being fired from two bow and two stern tubes. One 8.8cm deck gun was also available. Two diesel engines each produced 1,700hp. Maximum speed was 17.1kts surfaced and 9.1kts submerged, and the boat was manned by a crew of 36. Launched on 1 February 1916 and commissioned on 22 April 1916, *U 53* sank 87 merchant ships and one warship. The boat visited the United States in October 1916 and surrendered on 1 December 1918. In all, six of this type were commissioned.

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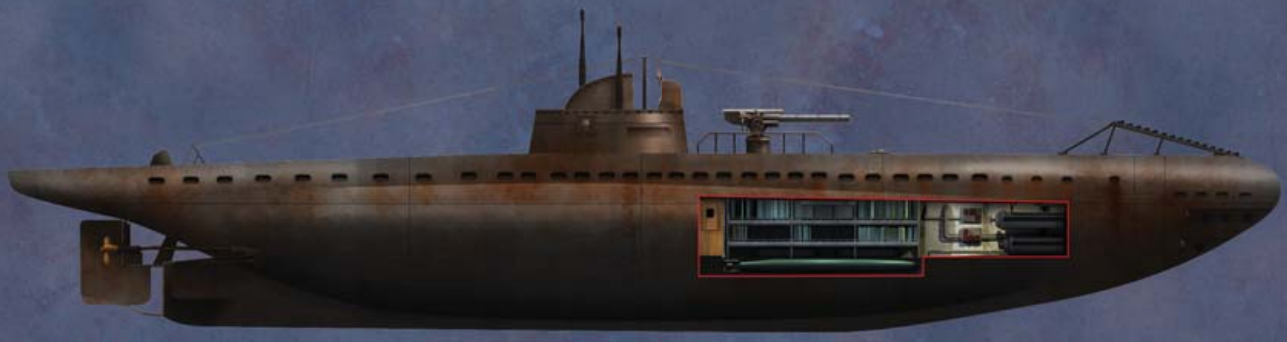

UB II CLASS (*UB 37*)

UB 37 was 118ft long, with a beam of 14ft and a keel-to-deck depth of 12ft. The forward torpedo room and crew living space can be seen in cutaway. Two diesel engines (the UB I-class boats had only one) each produced 280hp, propelling the boat at 9kts on the surface, and the vessel was capable of 5.8kts submerged. The boat displaced 292 tons submerged, approximately double that of the UB I-class boats. There were two bow torpedo tubes. Some in the series carried the 5cm SK L/40 gun that was originally designed in 1892 and adapted for use on submarines in 1913. A crew of 22 manned the boat. Launched on 28 December 1915 and commissioned on 10 June 1916, *UB 37* sank 31 ships in ten patrols and was sunk by *Penshurst* on 14 January 1917. In all, 30 of this type were commissioned.

UC II CLASS (*UC 29*)

UC II-class boats were 148ft in length, with a beam of 17ft 3in and a keel-to-deck depth of 12ft 2in; two diesel engines each produced 250hp, propelling the boat at 11.6kts on the surface and 6.6kts submerged. Here, the mine compartment and the small crew space behind the control room can be seen in cutaway. Six 100cm mine tubes could lay 18 mines. In addition, seven torpedoes were carried (UC I-class boats had none) and could be fired through two external bow tubes and one stern tube. There was an 8.8cm K L/30 deck gun (UC I-class boats had no guns). The boat had a crew of 26. *UC 29* was launched on 15 July 1916 and commissioned on 15 August 1916, and sank 18 ships during seven patrols, before succumbing to *Pargust* on 7 June 1917. All told, 64 of this type were commissioned.

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U-boat crewmen taking some fresh air. The conning tower sat upon the hull amidships and contained two periscopes – one for guiding the vessel, the other for aiming the torpedoes. Robert Wilhelm Moraht, who served on *U 64*, described his boat: 'Atop the conning tower is a cramped space surrounded by a rail called the bridge'; below this a ladder 'took crew down to the *Kommando-centrale*, which is the centre of all operations'. Here by the periscope the commander sat and 'around him are the warrant officer for navigation busy with the charts, the helmsman with his eye on the compasses, and the torpedo officer ready to relay word to the men in the torpedo rooms' (quoted in Lowell 2002: 257). (Cody Images)

scruples which certainly no longer have any justification' (quoted in Tarrant 1989: 13). By February 1915, 12 more U-boats had joined the 18 surviving examples for this first unrestricted campaign. Only *U 19* to *U 41* could reach the South-Western Approaches, however; *U 5* to *U 18* could not enter the Atlantic because they pitched and rolled so excessively.

THE U-CLASS BOATS

Different types of U-boats were brought into service during the war and were designed in numeric batches that combined better armament, speed and endurance. U 31-class boats, *U 31* to *U 41*, laid down in 1912, were launched in 1915; the boats each displaced 800 tons and could make 16.5kts on the surface and 10kts submerged. Four torpedo tubes carried six 50cm torpedoes and a 10.5cm gun was mounted. They could travel 4,440 miles at 8kts on the surface, and 80 miles at 5kts submerged. The crew consisted of four officers and 35 ratings.

In 1915, new variants of the U class were commissioned and entered service throughout 1916. U 43-class boats were similar to U 31-class boats; there were two extra torpedo tubes in the bow, but no extra torpedoes. The real advance was the U 81 class, appearing from August 1916, with speeds of 16.8kts surfaced and 9.1kts submerged, ten torpedoes and a range of 7,630 miles. From February 1917 the U 93 class, with 16 torpedoes but a range of only 3,800 miles, and the U 99 class, with 12 torpedoes and a range of 4,080 miles, were available.

U-class boats took up to three years to become operational. The only hope for rapid expansion lay in mass production of the new, smaller UB- and UC-class boats.

THE UB-CLASS BOATS

In late 1914 UB I-class boats were developed, which were built in four months (the U-class boats took 18 months to construct). Earlier versions, *UB 1* to *UB 17*, were equipped with only two torpedoes each and had a paltry range of 1,650 miles, speeds of 6.7kts surfaced or 6kts submerged, and a crew of 14 men. By mid-July 1915, 17 UB I-class boats were operating.

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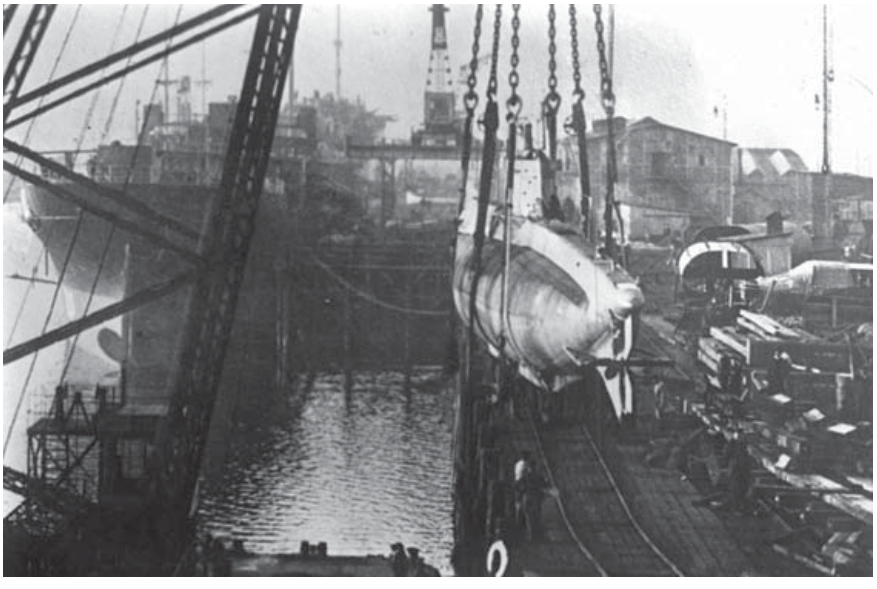
A UB I-class submarine alongside a U-class boat illustrates the comparative size of these vessels. Arriving in early 1915, the UB I-class boats could be built in prefabricated sections which were then sent by rail and assembled upon reaching their destination. They were 90ft long and displaced 120 tons. In contrast, the U 31-class boats were 212ft in length and displaced 800 tons. By the time Werner Fürbringer's *UB 2* encountered a Q ship trawler off Lowestoft in October 1915, *UB 4* had already been sunk. Fürbringer was surfaced when the trawler approached and opened fire from 330yd. *UB 2* fired two rounds from the machine gun before it jammed and also a torpedo, but when he resurfaced the trawler was still there. He crash dived and out of torpedoes returned to base. The encounter had established the fate of *UB 4*: 'we would have gone the same way if we had not got under so smartly' (Fürbringer 1999: 42). (Cody Images)

From November 1915 to August 1916 the UB II versions, *UB 18* to *UB 47*, appeared; with four torpedoes, a 5cm or 8.8cm gun and more powerful engines that could reach speeds of 9.2kts surfaced and 5.8kts submerged, they could travel 5,700 miles and were crewed by 23 men. Such boats took double the time to construct. In the period June–September 1917, UB III-class vessels *UB 48* to *UB 71* entered service; each carried ten torpedoes, an 8.8cm or 10.5cm gun and a crew of 34. Maximum speeds were 13.5kts surfaced and 7.8kts submerged, and range was 4,200 miles. *UB 72* to *UB 87* arrived by December 1917, and *UB 88* to *UB 132* in the period December 1917–July 1918.



UB 3 being lifted by crane in the docks. Oberleutnant zur See Werner Fürbringer, the commander of *UB 2*, described his U-boat as so small and underpowered that 'it was believed the only way to get them there from Germany was by rail'. However, in 1915 he sailed around the coast to Zeebrugge, enduring a storm that made him sit on the seabed overnight. Once he completed this transit 'the spell was broken, and successive boats came round from Germany by sea' (Fürbringer 1999: 19). Such was the danger to these vessels that the Flanders Flotilla commander, Kapitänleutnant Karl Bartenbach, ordered 'a standing instruction that sailing vessels should be tackled by two U-boats working as a pair' (Fürbringer 1999: 43). (Bundesarchiv Bild 143-B0530 Foto: o. Ang)

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A UC II-class submarine. Here, either side of the bow of *UC 55*, the mine compartments can clearly be seen. In 1917 over half of all U-boat losses would be made up of the UC class, indicating how much they were used but also how these smaller craft were more vulnerable than other classes – 52 of the 79 UC I-class and UC II-class boats did not survive the war. (Bundesarchiv Bild 134-B0524 Foto: o. Ang)

By mid-July 1915, small UC-class minelayers, each displacing 168 tons and equipped with six chutes for sowing mines, were a valuable addition to Germany's forces in the commerce war. In the period November 1916–June 1917, UC II-class vessels *UC 16* to *UC 79* appeared; they were much larger, up to 560 tons each, with an increased range of 8,200 miles and speeds of 12kts surfaced or 7.2kts submerged. Typically, seven torpedoes were carried, as well as about 18 mines, and an 8.8cm or 10.5cm gun. Fürbringer described his vessel, *UC 70*, as displacing 450 tons; it was 'fitted with one underwater and two surface torpedo tubes and an 8.8cm deck gun. The powerful diesels provided a top speed of twelve knots' (Fürbringer 1999: 69). There was a still-larger UC III version, but only six arrived before the war ended.

The larger U-class boats capable of cruising the Atlantic were part of the High Seas Fleet. From mid-1915 the smaller UB-class boats, designed for shorter missions, were operating out of Ostend and Zeebrugge as part of the Flandern Flotilla (Flanders Flotilla), and from late 1915 UC-class torpedo-armed minelayers accompanied them.

Q SHIPS

ORIGINS

The Admiralty believed offensive action was the best way to deal with U-boats. However, surface ships, which were unlikely to reach a U-boat before it had the chance to dive (except perhaps in bad weather), were of limited usefulness. Rather, the battleships of the Grand Fleet were a liability that required lavish protection; the torpedo-armed destroyers designed to guard them were originally intended for use against enemy

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destroyers not submarines, and up to March 1917 sank only six U-boats in 142 actions. Not until 1916 did the technology to defeat U-boats underwater start arriving – the hydrophone for detecting them and the depth charge for destroying them – and in the interim, other measures needed to be invented. Smaller craft to act as bait for U-boats were the Admiralty's answer, and a host of non-military vessels would eventually be requisitioned and outfitted as Q ships with hidden weapons.

FALTERING BEGINNINGS

By the end of November 1914 the first British Q ship, *Victoria*, was in service; the ship encountered no submarines, however, and the following month was judged unsuitable for Q ship service. Then, attacks on passenger liners prompted the Admiralty to equip *Vienna* (renamed *Antwerp*) with two 12-pdr guns, but her distinctive appearance made her of limited usefulness, and in March 1915 she too was decommissioned.

Antwerp's skipper, Lieutenant-Commander Godfrey Herbert, an experienced submarine captain, was convinced the three-island tramp steamer was a better alternative and persuaded the Admiralty to transfer his weapons and crew to one such vessel, the 4,192-GRT *Baralong*. However, at the start of her voyage no U-boats were encountered. Because of the Q ships' limited success in the opening months of the war, many within the Admiralty were pessimistic about their future usefulness. The concept needed to be developed much further before it would influence strategic method.

TRAWLERS AND SUBMARINES

Steam trawlers, fishing smacks, and drifters given a 3-pdr gun were also experimented with as Q ships and would operate particularly heroically throughout the war. Vice-Admiral David Beatty's secretary, Paymaster-Commander Sir Frank Spickernell, originated a scheme whereby an armed trawler was attached by towing cable to a submarine. The trawler would inform the submarine commander via an underwater telephone cable when under U-boat attack and would release the towrope to allow the submarine to pursue. *Taranaki*, a trawler from Aberdeen, and *Princess Louise* and *Wolsey*, were taken into service as Q ships and worked with submarines. *Ben Hur* and *Vina* operated in this manner from the Shetlands. However, despite some initial successes, the trawler/submarine ambush was employed infrequently. The ploy could only be used in fine weather and Captain Sir James Startin, the Senior Naval Officer at Granton in Scotland, wrote how 'it is not found practicable to fish and tow at the same time … bogus fishing does not in the least deceive the enemy' (quoted in Ritchie 1985: 44). A trawler would be expected to haul in its nets every two hours and an enemy submarine could wait and observe.

Instead, Startin proposed a schooner disguised as a neutral timber-carrier, converted at his own expense. Admiral Sir Robert Lowry, C-in-C Rosyth, approved, but Rear-Admiral Henry Oliver, Chief of the War Staff, was 'very sanguine of results' (quoted in Ritchie 1985: 45). Lowry purchased the engine-equipped *Thirza* through brokers, for £1,250. Commissioned on 30 August 1915 and renamed *Ready* and then *Probus*, the vessel was armed with two 12-pdrs and two 6-pdrs. In the meantime *Quickly* and *Gunner*, two disguised armed trawlers, went on patrol from Granton with Startin aboard. On 20 June 1915 he mistakenly thought he had sunk a U-boat with a lucky shot from 1,000yd. Lowry wrote to Admiral Sir Stanley Colville, base commander for the Orkneys

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Trawler under modification to be a Q ship. The conversion of a vessel for Q ship service was an involved process and few were exactly the same. Because a Q ship crew was usually double that of a merchantman, trapdoors and covered passageways within the superstructure had to be installed to enable half the crew to go about their business unobserved by a U-boat periscope. Admiral Stanley Colville, having moved to Portsmouth in February 1916, also requested more fishing-vessel Q ships. Rear-Admiral Henry Oliver, Chief of the War Staff, wrote: 'we are very short of patrol vessels in the Channel … and any craft which can carry and use a gun is some use to make the sea unhealthy for submarines, and having a diversity of vessel is advantageous' (quoted in Ritchie 1985: 102). (Cody Images)

and Shetland Islands, optimistically stating that 'the scheme has met with immediate success' (quoted in Ritchie 1985: 47). Colville had also fitted out a mercantile Fleet Auxiliary – the 373-ton collier *Prince Charles* – as a Q ship with two 6-pdr and two 3-pdr Hotchkiss guns. He told her captain, Lieutenant William Mark-Wardlaw: 'It is not considered probable that in view of her small size a torpedo would be wasted on her' (quoted in Bridgeland 1999: 9).

BAYLY ENTERS THE SCENE

In July 1915 Vice-Admiral Lewis Bayly was made responsible for the South-Western Approaches, the area where most merchant ships were sunk, and from his base at Queenstown in south-west Ireland he devoted more resources to Q ships than did any other admiral. Bayly contended that Q ships were 'the best means of sinking submarines' (quoted in Lake 2006: 107). No one was more responsible than Bayly for the evolution of the Q ship design. On 7 August 1915 he outlined his thoughts to the Admiralty: 'the value of a vessel of this type … is entirely dependent on the promptness of bringing the guns to bear and the accuracy of aim; there are no second chances', accordingly the gunlayers should be 'picked men, they will have to hit in the first three rounds' (quoted in Ritchie 1985: 85). Oliver was again pessimistic but had 'no objection to the V.A. [Vice-Admiral] trying to plan again, with 12 pdr guns, as there are no 4in guns to spare' (quoted in Ritchie 1985: 56).

The vessel had to be of a sufficient size to attract a U-boat commander, but not too large to persuade him to use a torpedo rather than his gun. The three-island tramp steamers displacing between 1,000 and 5,000 GRT were most suitable because U-boat commanders expected to see them in most areas and, although capable of only 10kts, plenty of storage space for coal and provisions enabled them to remain at sea for a month at a time. Oliver agreed to purchase four more to be used solely as decoy ships: *Lodorer* (3,200 GRT), *Zylpha* (2,617 GRT), *Vala* (1,016 GRT), and *Penshurst* (1,091 GRT). Bayly hoped to add more guns, perfect their disguise, and improve the crews' morale by offering increased rates of pay and other incentives. He decommissioned

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some, including the lumber steamer *Glen Isla*, whose cruising speed was only 7kts, and transferred her armament to *Lodorer* (by then renamed *Farnborough*), increasing her complement of guns to five 12-pdrs, two 6-pdrs and a Maxim machine gun.

COUNTERING THE GERMAN RESPONSE

Bayly was right to be concerned. In February 1915 German policy could have stymied the Q ship ploy from the outset. When the British Admiralty began arming cargo ships and instructing captains to ram submarines, the Kaiser dispensed with Prize Regulations to ensure that no risks were taken when identifying targets. Thankfully for Bayly, practice did not always follow policy. In 1915 submarine commanders attacked ships without warning only 21 per cent of the time; surfacing to inspect a ship and sink it with gunfire was preferred. In these circumstances the Q ship concept could still flourish. However, because of the small number of ships available, not until 24 July 1915, when *Prince Charles* destroyed *U 36* north of the Hebrides, did a Q ship sink a submarine – a fortuitous engagement, resulting from German ignorance of the Q ship danger. Only with *Baralong*'s two successes in August and September 1915 were Q ships able to start winning over their detractors.

By March 1916 Captain R. Webb, Acting Director of the Trade Division, Admiralty Staff, was urging the First Sea Lord, Admiral Henry Jackson, that 'more of these vessels should be employed' (quoted in Ritchie 1985: 87). On 5 April Jackson told Oliver: 'except in one doubtful case, no submarines appear to have been sunk by any of the vessels … specially designed to deal with them. In these circumstances is it not very desirable that we should as much as possible develop the decoy system?' Oliver replied: 'there is no objection to having more decoy steamers provided modern guns can be got for them. They have about a minute and a half to get a hit in, and it is not fair to expect them to do it with old guns' (quoted in Ritchie 1985: 88). Larger (4,000 GRT), faster ships would be fitted with two 12-pdrs, and one 4in Mk VII breech-loading gun. *Perugia*, *Intaba* and *Barranca* were readily available and a fourth would be sought, and all were sent to Queenstown. By April 1916, 16 Q ship steamers were in use.

Rather than a square-rigged ship, Captain Webb thought, 'a barquentine or schooner would perhaps be most suitable, being handier and easier to manoeuvre during an engagement' (quoted in Ritchie 1985: 97). HMS *Gaelic*, seen here in 1920, was one of four such vessels used as Q ships. The vessel was built in 1898 and damaged by gunfire from *UC 47* in April 1917. (Cody Images)

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Q SHIPS

HMS *PARGUST*

Pargust, 317ft long, was built in 1907 and originally named *Vittoria*. The 4in gun on the stern, starboard 12-pdr gun concealed in a fake cabin, tilting 12-pdr guns on the bow and aft of the lifeboat, depth charges astern and torpedo tubes amidships can all be seen in cutaway. Weighing 2,817 GRT and capable of 7.5kts, she was converted into a Q ship and was Campbell's second Q ship, divided into five compartments instead of three. Most of the crew were from *Farnborough*, with some additional men to crew the new armament. Commissioned on 28 March 1917, the vessel was fitted out at Devonport with a 4in gun, four 12-pdrs, two 14in torpedoes and two Maxim guns. A visible dummy 3-pdr gun was installed aft, which slightly impeded the 4in gun.

The 4in gun was mounted on the poop deck, fitted in a hatch, the sides of which fell down. A dummy boat covered the top, which protruded above the hatch sides. Placed too high, the gun would have been harder to conceal; too low, and the gun could not have been used against close targets. The 4in gun and dummy gun crews lived in a mess in the poop so they could always be close to their action stations. A 12-pdr was placed each side in fake houses built alongside real cabins. There were no hinges; instead a weight kept up the upper part, which could be released by knocking out a slip and then the top half would fall down flush with the lower half. A handrail to a dummy door disguised the line that showed the separation of upper and lower parts. Tilting 12-pdrs, which 'enabled the gun to fall right over on its side, so there was less vertical height to be concealed' (Campbell 2002: 198), were placed amidships forward and aft to fire either side. The forward gun was covered by canvas and rope. The other gun in the middle of the ship was disguised in a hen-coop and ordinary lumber such as lockers, racks and casks were placed around it.

Torpedo tubes on the mess deck had doors on the ship's sides hinged on the inside. The doors could only be opened and the torpedoes could only be fired from the bridge, where periscopes were available. Internally hinged ports for depth charges were fitted in the stern to enable the depth charges to be pushed out.

Pargust was moved to Queenstown and would have been assigned to the US Navy, but the damage done in June 1917 after the encounter with *UC 29* was too severe and she could not be repaired until May 1918. Renamed *Pargloss*, the vessel became one of Lieutenant-Commander Dane's four Q ships based at Gibraltar.

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HMS *PENSHURST*

Penshurst, 232ft long, was built in 1906 and weighing 1,091 GRT was commissioned as a Q ship at Longhope inlet in the Orkneys on 9 November 1915. For a year after commissioning *Penshurst* patrolled the western and southern coastal waters without any contacts; even so, she would be the longest-serving Q ship and would fight 11 actions against U-boats. The former collier had a Q-ship complement of 45 – four officers, two engine-room artificers, two stoker petty officers, two wireless/telegraphy operators, one petty officer, two leading seamen, one shipwright, 18 seamen, two signalmen, two cooks, two stewards and seven stokers. With three masts, a low freeboard and a stern funnel, she resembled an oil tanker. *Penshurst* frequently either had a black funnel with a red flag and white letters for the Carron Company, a black funnel with a white 'V' for another firm, or coloured bands for yet another. In addition, the mizzen mast would be taken down, the forward well deck covered, derricks shortened, and a wooden bridge and hull screen painted on. Deck cargo and derricks could all be moved around to alter appearance further.

On *Penshurst*, Commander Francis Grenfell, who had been a retired physical-training lieutenant before the war, had five guns. One 12-pdr was located on the aft hatch, disguised by a lifeboat that was already divided in half. A 3-pdr and a 6-pdr on either side were concealed by wooden screens along deck rails that fell down. After *Penshurst*'s transfer to Queenstown, Bayly had the vessel's 3-pdrs moved into a gunhouse made from the engineers' cabins so they could fire right aft, and the 6-pdrs moved forward to where the 3-pdrs had been located on the lower bridge deck. Four depth charges were also added. Grenfell was invalided ashore in March 1917 and Lieutenant Cedric Naylor took command. *Penshurst* eventually had two 4in guns, two 12-pdrs, two 6-pdrs and a 3-pdr on the stern.

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In February 1917 Bayly wrote: 'Experience has shown that the modern German submarine makes fair shooting at 6,000 yards in good conditions of weather and light' (quoted in Ritchie 1985: 136); the 4in guns that could counter them effectively were difficult to disguise, however, which was why he had discouraged them. J.M. Simon, the new commander of *Baralong* (renamed *Wyandara*), submitted 'my present armament is not suitable for the present conditions' because 'The armament of the decoys has not changed with the changing tactics of the submarines' (quoted in Ritchie 1985: 111); he wanted several 4in guns, such as this one on board HMS *Hyderabad*. (Malcolmson)

ARMING THE Q SHIPS

The first Q ships were equipped with small guns, usually 12-pdrs and 6-pdrs, and a Maxim machine gun. Initially, Bayly asked for each Q ship to have five 4in guns; instead a 4in gun and an additional two 12-pdrs were commonly added, later supplemented by 14in torpedoes and in 1917 by anti-submarine bomb-throwers of various calibres. A new tilted mounting had been invented for the 12-pdrs, which enabled the gun to lie on its side between the bridge and forecastle, on a counterbalance mounting that could be swung up into action within 30 seconds. British torpedoes were very unreliable; they frequently ran straight to the bottom after launch or failed to explode (on seven occasions this occurred when a U-boat was hit).

SAILING Q SHIPS

In April 1916, Captain Webb suggested sailing ships as decoys. *Mary B. Mitchell,* a 227-GRT three-masted schooner built in 1892, was requisitioned, and equipped with

According to Lieutenant-Commander Harold Auten, who from April 1917 commanded HMS *Heather* (equipped with four 12-pdrs and a 4in gun), Flower-class sloops were easily recognizable and the Germans 'fought shy of these craft on every possible occasion' (Auten 2003: 144). Although their great advantage was speed – up to 18kts – he 'never had very great confidence in them' (Auten 2003: 153) and thought 'it was hopeless to decoy a submarine with the type of vessel I was in' (Auten 2003: 215). (Cody Images)

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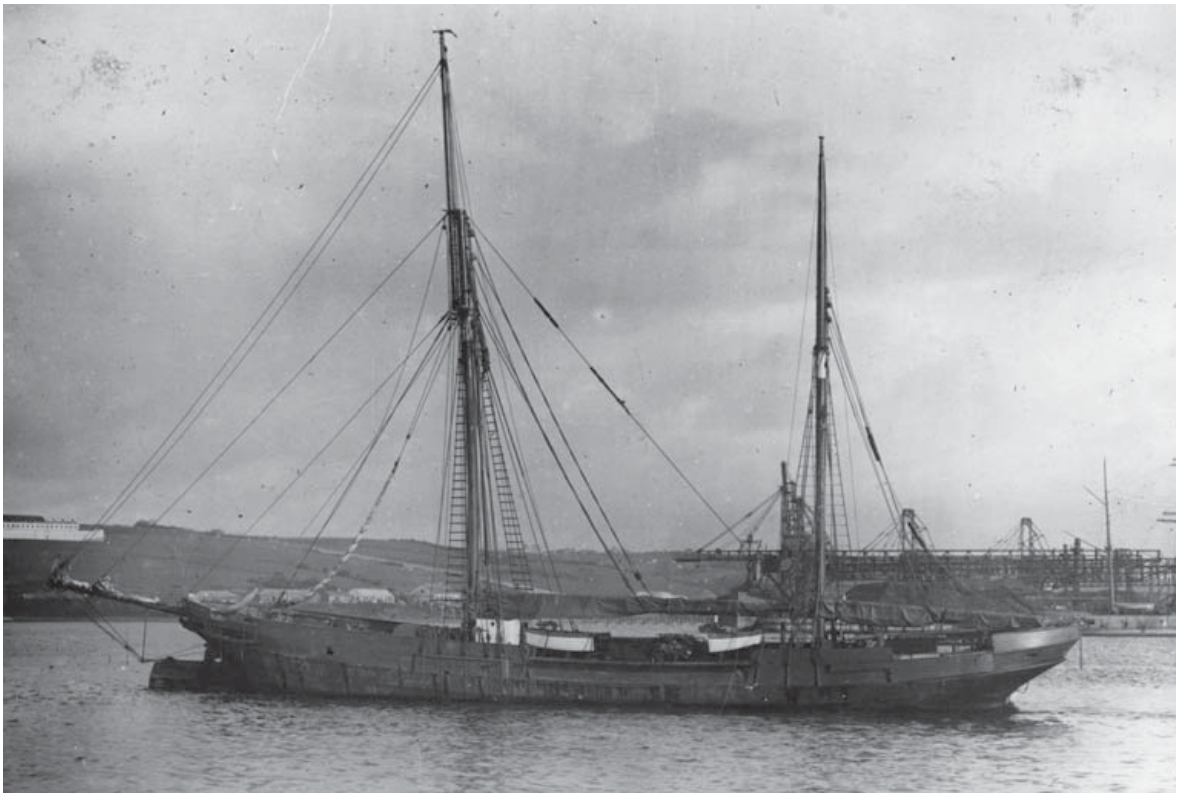

From February 1917 French sailing ships were formed into convoys in the Channel, and sailing Q ships were put among them. Sailing Q ships lagging behind a convoy could entice a U-boat, drive it off if not destroy it, and carry freight. On 21 June 1917 *Probus*, commanded by Lieutenant H. Osborne, was acting the part of a straggler 4 miles astern of a convoy and engaged a U-boat at 3,500yd. The U-boat retired to patch up some minor damage and then approached again, but was driven off by an armed trawler that had been alerted by the commotion. Another two-masted schooner, *Record Reign*, seen here in service on 9 October 1917, was equipped with one 4in gun and four 12-pdr guns. (RN Submarine Museum)

one 12-pdr concealed in a collapsible deckhouse on the poop, two 6-pdrs (one under each hatch on swinging pedestals) and two Lewis guns. Commodore J.M. Denison described how 'the officers concerned supervised the strengthening of the deck and the gun supports', enabling the timbers to stand up to a gunnery discharge (quoted in Ritchie 1985: 98). During her first voyage as a Q ship in June 1916, her disguise held up when boarded by patrol trawlers. However, because another sailing Q ship, *Helgoland*, was attacked three times on her first voyage, some suggested no further sailing ships should be taken up for Special Service. Oliver agreed, but Vice-Admiral Charles Dare, Senior Naval Officer at Milford Haven, asked him to reconsider, summing up their advantages: they could keep the sea for longer, they were roomy and so could accommodate dummy houses, and their shallow draught assisted survivability from torpedo attack. On 5 October 1916, Oliver modified his view and small vessels were acquired; one such was *Bayard*, a 94ft-long lugger of 220 GRT, taken up in Boulogne and armed with a 13-pdr gun.

In November 1916 there were four sailing Q ships and 47 other Q ships, ranging from motor drifters to medium-sized steamers. However, again expressing reservations about future expansion, Oliver thought that 'the submarines are fairly well aware of the methods of Q-ships and there is no good case for a large increase in number' (quoted in Ritchie 1985: 100). But Bayly demurred and on 15 January 1917 told to the Admiralty: 'I feel sure we should get good value from them' (quoted in Ritchie 1985: 134). In spring 1917 another four steamers, each displacing 1,200 GRT and equipped with one 4in and two 12-pdr guns, were commissioned as Q ships.

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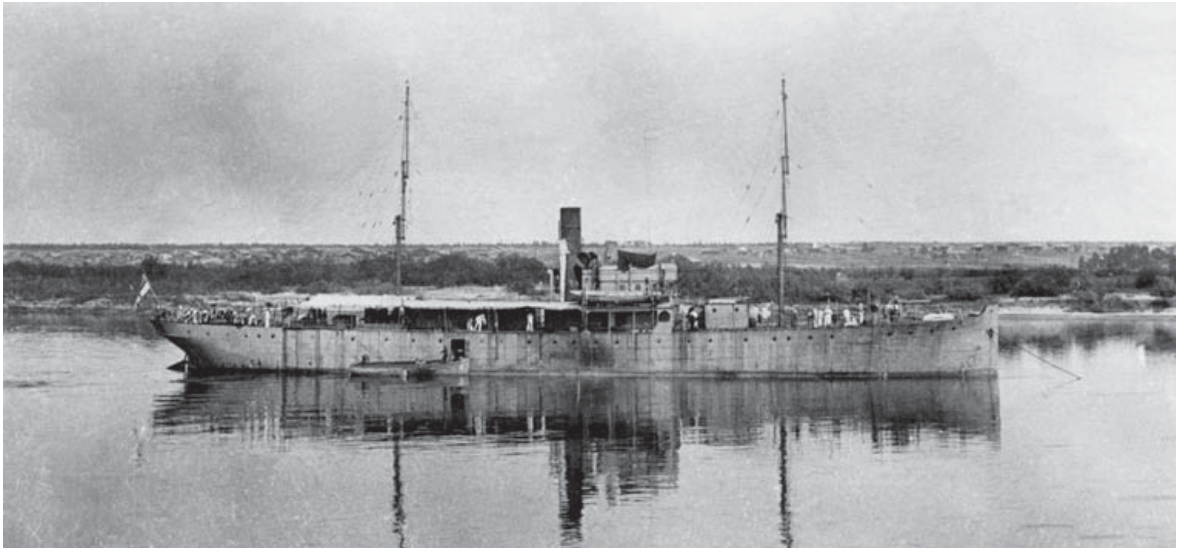

Only one vessel was constructed as a Q ship: HMS *Hyderabad*. Launched on 27 August 1917, the ship resembled an ordinary merchant ship but had a draught of less than 10ft to avoid torpedoes. Armament consisted of one 12-pdr gun forward and astern, a 4in gun hidden behind the funnel, four bomb-throwers in the cargo hatches, two depth-charge throwers concealed on the deck, four hidden 18in torpedo launchers facing port and starboard, and a small unconcealed gun on the stern. However, because of her large size, U-boat commanders viewed *Hyderabad* with suspicion and she fought no engagements with them. (Cody Images)

CONVERTING NAVAL VESSELS

In mid-1916 the First Lord of the Admiralty, Arthur J. Balfour, had asked whether Royal Navy sloops and patrol boats could be changed to make them look like merchant ships while being equipped as Q ships; 12 Aubretia-class (1,250 GRT), 28 Anchusa-class (1,270 GRT) and one Azalea-class sloop capable of 17kts would be either converted for Q ship work or built to resemble merchant ships. Each was equipped with a couple of 4in guns hidden behind deck loads or dummy boats, but most still looked like warships. A total of 20 P-class patrol boats, each equipped with a 4in gun and a couple of 12-pdrs, were also completed as Q ships, and designated PQ boats; driven by twin screws and capable of 20kts, they operated out of Pembroke and their shallow draught (8ft) protected them against torpedoes. By March 1918, however, finding sufficient escorts for convoys was more important than maintaining a large number of Q ships, so both were converted back to their original layout.

THE LAST Q SHIPS

Following the attack on Commander Gordon Campbell's final Q ship, *Dunraven*, on 8 August 1917, a conference held on 28 August by the Anti-Submarine Division of the Admiralty War Staff on 'The Future Role of Q-ships' concluded that difficulties engaging submarines will 'even be increased in the future' (quoted in Ritchie 1985: 152). Convoy sloops and PQ boats were relegated to convoy duty, and special pay was cancelled for their crews. Whilst steam Q ships could be retained if they could be spared, keeping them sailing alone rather than in convoy would arouse suspicion, and so many were sent further afield. Smaller coastal vessels of around 500 GRT, which could still be expected to make short sea voyages alone, were commissioned as Q ships (for example Lieutenant-Commander Auten's *Stock Force*, a small (370 GRT) collier equipped with two 4in guns, two 12-pdrs, a 3-pdr and two 14in torpedo tubes), as were more sailing vessels, typically two- or three-masted schooners displacing between 300 and 900 GRT. In April 1918 *Fresh Hope* was commissioned, along with five other sailing ships, carrying an auxiliary engine, two 12-pdrs and one 4in gun, plus a 7.5in howitzer.

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THE STRATEGIC SITUATION

In August 1914 many within the Royal Navy were paranoid about the U-boat threat, and the Grand Fleet was sent north to Scapa Flow to avoid them. The initial U-boat foray into the North Sea was indeed to look for capital ships. The Kaiser's main priority was his battleship fleet, and because they were outnumbered and compromised by limited access to the oceans he was wary of risking them; U-boats would hopefully level the odds.

U-boats were not originally conceived as commerce raiders. Admiral Scheer told how using submarines against commerce was 'quite foreign to our naval policy' (Scheer 1920: 224). After sinking *Glitra*, the first merchant ship to be sunk by a U-boat, Oberleutnant zur See Johannes Feldkirchner, commander of *U 17*, thought he 'might get a court-martial for his unauthorized sinking' (Gray 1994: 65). Led to believe that results would be questionable – a pre-war German study by Korvettenkapitän Ulrich-Eberhard Blum had concluded that 222 U-boats would be needed to blockade Britain, but at the start of the war only 25 were available – German politicians, the Kaiser and some Navy chiefs showed little initial enthusiasm for them and were wary of diplomatic repercussions if neutrals (responsible for bringing in a third of British imports) were intercepted. However, in 1914 such questions could wait, as German leaders expected a quick war.

The slow beginning to the commerce war explains why, during the early months, encounters between U-boats and Q ships were few. True, on 2 November 1914 Britain declared a total blockade of Germany, and the Germans retaliated by declaring the seas around the British Isles a submarine-warfare zone; then, on 18 February 1915, with German leaders angered at the ramming of U-boats by merchantmen, U-boat

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commanders were permitted to use torpedoes 'to destroy every enemy merchant ship' (Bridgeland 1999: 3). Despite such iterations, in 40 days only 25 merchantmen were sunk (16 without warning) – a small proportion of the 600 ocean-going vessels per month using British ports. However, Admiral Lord Charles Beresford, a prominent critic of naval policy, told the House of Commons that the submarine was 'the most fatal weapon in naval warfare' if the target was not going at speed or escorted by destroyers; the Grand Fleet remained in harbour because of the shortage of these vessels (Gray 1994: 75).

The U-boats' slow start faltered still further after the uproar following the sinking of the passenger liner *Lusitania* on 7 May 1915. In mid-September, to appease US opinion and business interests, the Kaiser refused permission for his 50 U-boats to use torpedoes; Admiral Henning von Holtzendorff, since 6 September the new Chief of the Naval Staff, recalled them from the Channel and the Western Approaches. During the winter months of 1915/16, U-boat activities against shipping practically came to a halt and, unsurprisingly, Q ships came across hardly any submarines. Then, in December 1915, General der Infanterie Erich Falkenhayn, *Chef des Generalstabes der Armee* (Chief of the Army General Staff), and Grossadmiral von Tirpitz, head of the Imperial Naval Office – realizing a commerce war had the potential to evolve into a strategic campaign – argued for a resumption of unrestricted submarine warfare.

On 29 February 1916, in response to the Entente's arming of merchant ships, a German order was given to treat such vessels as warships, providing their gun could be identified. This was not enough for Scheer, from January the new C-in-C High Seas Fleet, who thought that if the inspection was done on the surface the submarine was vulnerable to attack by decoy; if done underwater, it might be too late to gain position for a torpedo attack. On 13 March permission to engage all enemy freighters was given, but in April the sinking of the cross-Channel packet *Sussex* led the German government to insist again that U-boat commanders follow boarding procedures. On 25 April an exasperated Scheer recalled his submarines. German naval strategy briefly turned to surface ships; 26 U-boats were deployed alongside the High Seas Fleet to ambush the Grand Fleet, but coordination proved too difficult and the German dreadnoughts were repulsed at Jutland. On 19 August, 24 U-boats were used in another attempt, but the British were forewarned of German intentions.

Admiral Reinhard Scheer was a keen advocate of unrestricted submarine warfare and wrote that surface attacks 'must expose the boats to the greatest danger' (quoted in Tarrant 1989: 30). In early 1917 he explained that this 'war of exhaustion must end in Germany's certain defeat. There was no prospect of avoiding such a conclusion by the war on land' (quoted in Tarrant 1989: 45). He was proved correct – in October 1918, a revolution in Germany because of economic plight owing to blockade would overthrow the Kaiser. (Cody Images)

After this failure, U-boat commanders were again unleashed on merchant ships – but still under Prize Regulations, told to spare neutrals and advised 'in case of doubt, the ship is to be allowed to pass' (quoted in Lake 2006: 127). In late 1916, German strategy was again in the balance. The Somme and Verdun battles illustrated the Entente Powers' crushing superiority in resources. Theobald von Bethmann-Hollweg, the German Chancellor, initiated peace discussions, but his minimum terms included keeping hold of Belgium and Poland. Britain and France, having completed programmes of industrial expansion, demanded the restoration of Belgium and Serbia

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Even in the last years of the war, Germany continued to build larger and improved types of all their U-boats. In December 1917 12 U-class, 36 UB III-class, 34 UC III-class and 20 small UF-class coastal boats were ordered, making a total of 273 for 1917. Jellicoe described U-boats as a 'very serious and ever-increasing menace' (quoted in Lake 2006: 128). Here a 15cm gun can be seen on board *U 139*. This class was capable of operations across the Atlantic and south of the Equator. (Bundesarchiv Bild 134-B0818 Foto: o. Ang)

and the break-up of the Austro-Hungarian Empire. Instead Germany constructed a defensive belt 25 miles behind the Somme front called the Hindenburg Line, and the Hindenburg Programme – aimed at doubling German industrial production – was also initiated. Such efforts mortgaged German long-term prospects for short-term gains, because they 'took no account of the limitations of Germany's real resources, or of the basic needs of civilian life' (Barnett 1980: 100).

The German leadership went for broke, encouraged by Holtzendorff's assertion that if 631,000 GRT of shipping was sunk each month, Britain would be forced to come to the peace table within six months. It was also thought that U-boats could dominate the sea lanes before the United States' armed forces could cross the Atlantic. The German public, angered by the British blockade, clamoured for an unrestricted campaign. The Kaiser gambled and signed a proclamation that stated: 'from 1 February 1917 sea traffic will be stopped with every available weapon and without further notice' (Barnett 1980: 96). If the Germans had waited a few more months, another strategic development might have stopped them from taking this gamble – the Russian Revolution led to the Central Powers' victory in the East and freed up the manpower needed to make the Hindenburg Line impregnable. Instead, a renewed commerce war presented the Q ships with their toughest challenge to date.

In 1917 another 100 Q ships of all types were added to the Royal Navy's inventory. The Germans, with 100 U-boats available and about to start another unrestricted campaign, provided more opportunities for engagements. However, only 46 were High Seas Fleet U-class boats, with a further 23 smaller UB- and UC-class boats; the rest were deployed to other theatres. Furthermore, for a U-boat to be maintained on

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If a submerged U-boat stumbled across a convoy the best the Germans could hope for was to sink a couple of ships before the convoy moved on. In convoy, only 1 per cent of ships were lost; by comparison, 10 per cent of those sailing alone were sunk. Q ships still had a role; often they trailed at the back to provoke an attack. In May 1917, two Q ships – *Mavis* and *Rule* – accompanied the first convoy, but they were increasingly out of favour and continued to operate independently. Flower-class sloops and patrol boats, some of which were converted back from the Q ship role, became the convoys' true protectors. (© IWM Q 19954)

a Western station, five boats were needed – one on, one leaving, one back, one in for repair, and one undergoing a complete overhaul.

Entente shipping losses rose sharply. In February 1917 540,000 GRT of shipping was sunk; in March 593,000 GRT; and in April a staggering 881,000 GRT. In March the 18 High Seas Fleet and 14 coastal boats at sea sank 211 ships, losing only four of their number. Nearly 400 ships were sunk in April. New British merchant-ship builds represented less than 20 per cent of those lost. Admiral of the Fleet John Jellicoe warned the British War Cabinet that it would not be possible to go on with the war if losses like this continued. As more U-boats and Q ships were active, engagements between them increased dramatically. But Q ship success, with some notable exceptions, plummeted because the Germans changed their tactics; sinking without warning, already high at 37.5 per cent in January, increased to 60 per cent in April.

Then, a change in Entente naval procedures occurred. Convoys, initially thought by the Admiralty to present a large target for submarines, emptied the sea of ships and made them easier to protect and difficult for U-boats to find, and the convoys could be rerouted to avoid known U-boat locations. Furthermore, destroyers on escort duty – in Churchill's words – 'instead of being dissipated on patrol over wide areas, were concentrated at the point of the hostile attack, and opportunities of offensive action frequently arose' (quoted in Terraine 1989: 55). Working in teams, escort vessels could triangulate hydrophone signals from three chasing vessels and isolate a target area into which to deploy depth charges. In July 1917, losses totalled 557,900 GRT; in September the total was 351,700 GRT. Most U-boats reverted to operating close to the coast and contacts with Q ships again occurred. In 1917 63 U-boats were lost, but in February 1918 Germany still had 129 in service and 50 of them were at sea. The stage was set for the taming of the U-boat, but Q ships would find them a potent adversary right up to the end of the war.

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TECHNICAL SPECIFICATIONS

U-BOATS

MOBILITY

In the early days, if fired upon by a Q ship, a U-boat would almost always attempt to crash-dive because the deck gun would be no match for the British vessel's quick-firing guns. The smaller UB- and UC-class boats could achieve this in 40 seconds, but larger boats took 1½ minutes; U-boat commander Kapitänleutnant Edgar von Spiegel wrote how 'never in my life have such a few seconds seemed to have been so long' and many could not submerge quickly enough (Spiegel 1976: 23). On the surface turning circle was 400m, and Spiegel was frustrated that he could not achieve the rate of turn he needed when in combat with HMS *Prize*. However, when submerged the turning circle would be even greater because sea pressure on the upper hull and conning tower needed to be taken into consideration. In this situation Q ships on the surface were more manoeuvrable. Submarines travelled on the surface when there was no threat of imminent attack and 'frequently disguised themselves as sailing craft by putting up masts and sails' (Campbell 2002: 102). Sometimes this ruse worked, at other times not, because when a boat motored into wind the sails started buffeting.

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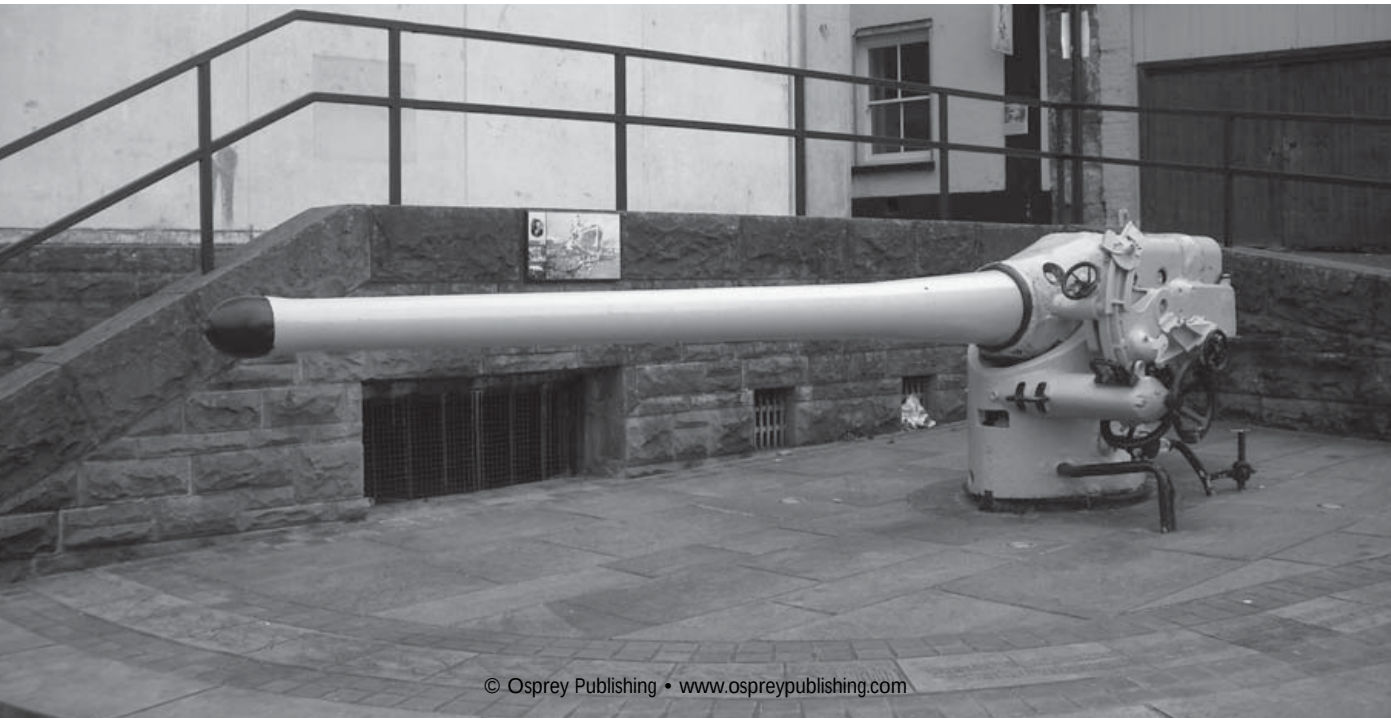
PROTECTION

Although the outer skin, conning tower and guns of the U-boat were vulnerable to Q ship shells, the thick pressure hull was often adequate protection, and U-boats could survive multiple hits. On U-type boats the plating of the outer hull was about 48mm thick. Ballast and fuel tanks were carried within the outer hull. The plating of the pressure hull was between 95mm and 127mm thick. The conning tower was situated amidships and constructed with 22mm steel plates, stiffened by H girders that passed right round, the whole enclosed by a 3.2mm casing. On UB II- and UC II-class boats the plating of the pressure hull was 11.1mm thick. On UB II-class boats there was only one hull and no hatch at the base of the conning tower, which was a vulnerability Q ships could exploit (a good hit would be enough to disable the submarine and leave it unable to submerge). Similarly on UC II-class boats there was no means of shutting off the conning tower (which on this class was unarmoured) from the control room.

On the U-type boat, providing the hatch to the hull was tightly shut, a ruined conning tower would not destroy the submarine. Those built later in the war showed a remarkable ability to withstand damage. Because the hull was curved, nothing but a waterline hit would be decisive as shells could ricochet away; even then, the British Admiralty realized, 'damage to the outer hull alone will not appreciably impair the diving qualities of the submarine, and certainly will not disable her'; similarly, they realized that the fuel tanks located between them could deceive, as 'an arrangement is fitted for ejecting oil in case of accident, to mark the position of the submarine. German submarines are instructed to use this arrangement if it appears advisable, in order to mislead and delay the enemy' (quoted in Lake 2006: 142).

ARMAMENT

The U-boat's main armament was the torpedo. Admiral Fisher made the following comparison between the torpedo and the gun: 'the torpedo has no trajectory: it travels horizontally … so all its hits are vital hits; but not so the gun – only in a few places



Here is the salvaged 10.5cm deck gun from *UB 91* on display in Chepstow. Although open sights were available, each 10.5cm gun was fitted with a set of telescopic prismatic sights for both the gunlayer and gunner, but in fair weather the gun would usually be laid and trained by the gunlayer single-handed. Both sets of sights were fitted with cross-wires, which could be illuminated at night. In the eyepiece, light filters of varying density of colour were fitted. Ordinarily the sights were kept in the control room, but they could be shipped if the boat had to dive hastily. (Andy Dingley/CC-BY-SA-3.0)

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Here the gun crew of *U 35* undergo training. Guns would either use bracketed firing (where a short shot is registered and the range left unaltered until an overshot is obtained) or fire for maximum effect (where the gunlayer fires as rapidly as possible without observing the fall of shot, and the observer makes alterations for the next barrage). High-explosive ammunition with nose-fused, internal-fused, or time- and percussion-fused fuses was used. (Cody Images)

are gun hits vital, and those places are armoured' (quoted in Compton-Hall 1991: 130). In heater-type torpedoes, a burner heated compressed air, stored in a tank behind the warhead, and a shaft transmitted its pressure to the gearbox at the stern, which propelled the weapon forward at 40kts. By 1918, U-boats carried both 45cm- and 50cm-calibre torpedoes; the smaller were reserved for merchant ships, and guide rails were inserted in the larger-calibre tubes to allow them to fire. The charge of the 50cm torpedo was between 360lb and 440lb of high explosive, varying with the type; the charge of the 45cm torpedo was between 300lb and 350lb. U-boats usually carried a majority of G/6 AV or K III torpedoes and only a few freshwater heaters. (Wet heaters pre-heated the air being fed into the engine, and offered a longer range than dry heaters.)

To fire its torpedoes, the submarine was pointed like a gun towards the future position of the target. The ideal firing position was 80 degrees from the target – just forward of the beam. At the U-boat school at Eckernförde, commanders were taught to shoot at a range of 200m (220yd) to stop the target evading; this was increased to 300m (330yd) on active service. Greater ranges did not negate a hit. On 30 July 1918 a torpedo 'having been fired at a long range [1,000yd] and appearing to have very nearly run her distance' caused 'indescribable' damage to *Stock Force* (Auten 2003: 259). At a range of 1,350yd, however – the maximum practical range for a torpedo – the running time at 38kts was one minute. Therefore U-boat commanders needed to estimate enemy speed accurately – a 2kt mistake would lead to a 70yd miss of a 375ft target. The gyrocompass setting could make the weapon also wander up to 13yd off course.

When the weapon struck a target a detonator exploded the charge, which set off the warhead. The Germans fitted a double detonator and a safety lock – a miniature propeller that spun off a threaded shaft and fell away after the torpedo had run 30yd – to protect the U-boat from an inadvertent detonation. Although some torpedoes malfunctioned and failed to explode, a successful detonation would destroy a lightly

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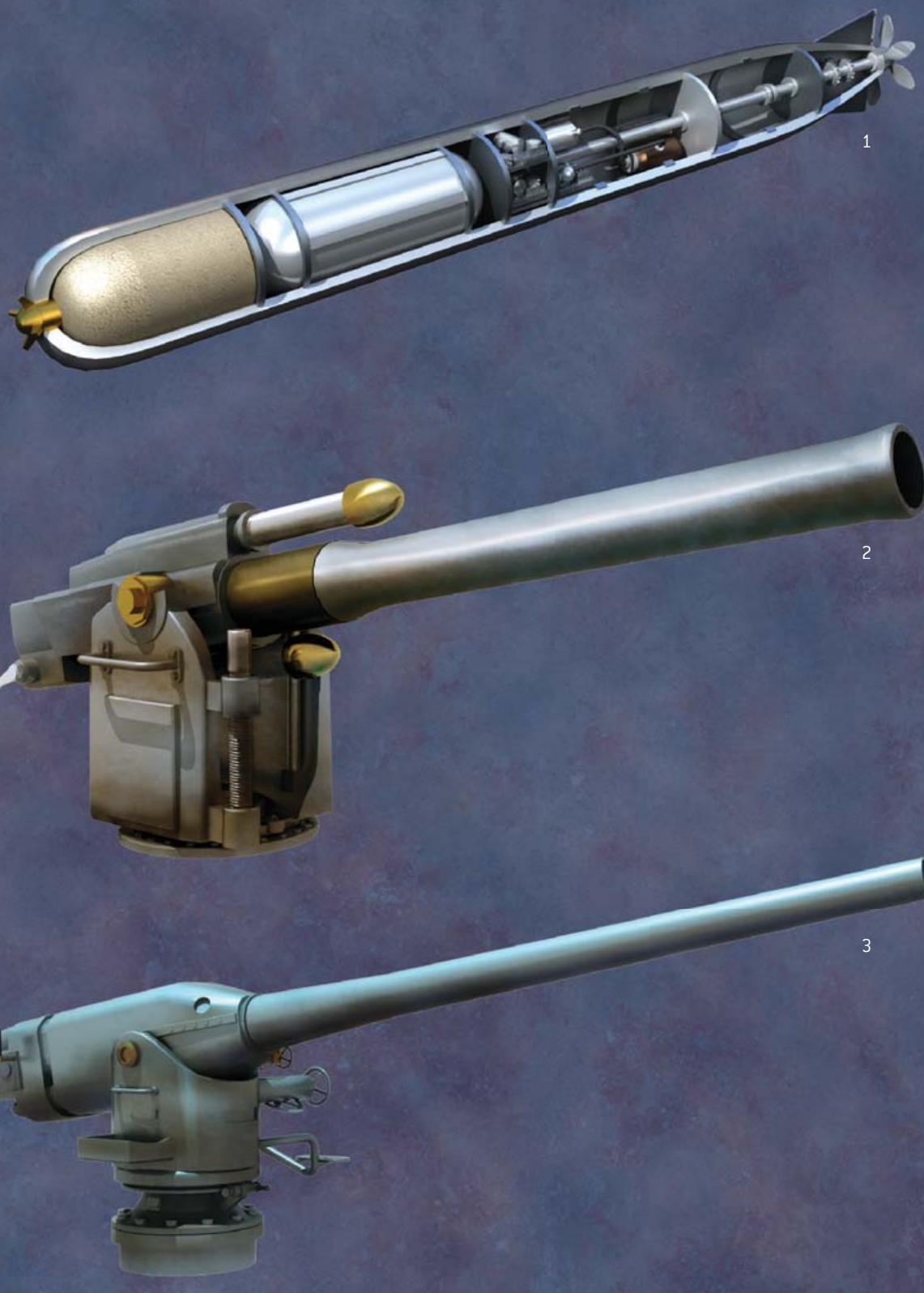

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U-BOAT WEAPONRY

The U-boat torpedo, shown here in cutaway (**1**), was fitted with gyroscopes, which enabled it to run on a straight and predictable path, capable of being angled in 15 settings ranging from 9 o'clock to 3 o'clock to permit some variation in course; angling could be effected only once the torpedo was in the tube. It could be set for depth and long or short range, either before loading or when in the tubes; the high-speed setting was almost always used. To set depth, a key was inserted, engaging the depth-setting spindle and then turned as required. A spring-loaded spindle operated through the torpedo casing and engaged the angling socket of the torpedo. An external indicator on the tube showed the angle. The firing gear could be operated manually or electrically. There was a firing-pistol key in the control room or conning tower, which discharged a small powder cartridge; the force of the explosion pushed a plunger down and allowed the firing bar to revolve and the tube to fire. Two propellers turning in opposite directions ensured the torpedo did not stray. Horizontal fins, which were regulated by a depth sensor, maintained depth, and a gyroscope controlled a pair of vertical fins to keep the torpedo on course.

Deck guns could traverse through 360 degrees. The 8.8cm Ubts K/L 30 deck gun (**2**) fired a projectile weighing 30lb 3oz at 2,300ft/sec, theoretically up to 12,000yd. However, the improved range of the 10.5cm Ubts K/L 45 deck gun (**3**) with its telescopic sight enabled U-boats to sink ships with gunfire from greater distances, rendering shorter-ranged Q ship guns obsolete. The 10.5cm deck gun fired a projectile weighing 30lb 14oz at 2,575ft/sec up to 13,500yd. The 10.5cm guns mounted on U-boats could either be placed on a low destroyer mounting, which gave a maximum range of 10,000yd, or on a higher mounting that enabled a range of 13,500yd. The latter mounting gave a maximum elevation of 45 degrees. Each gun was mounted on a slightly raised platform, which extended beyond the superstructure on either side and was provided with guard rails. The guns were not fitted with shields. To ensure a tight seal, all guns were fitted with an expanding muzzle tampion and with a special breech tampion, shaped like the base of a cartridge case, which had leather seating and was backed by a spring washer.

built merchant ship. Reliability mostly improved as the war went on. On his first voyage Fürbringer fired a torpedo at a steamer, which 'must have gone beneath her keel. To be sure of hitting, I had gone in too close. At very short range the torpedo ran below the depth set' (Fürbringer 1999: 17). In 1917, after one of his new K III torpedoes went straight to the bottom after leaving the tube, he became convinced that the 'torpedoes were faulty' (Fürbringer 1999: 105); and when the factory was inspected 'a construction fault in the depth plate which would either cause the torpedo to head for the bottom or develop other depth-keeping irregularities' was found (Fürbringer 1999: 112).

If the submarine had been submerged for a long time, air-pressure leaks could find their way into the hydrostatic valve mechanism, which would add to the force of the spring against the valve and make the torpedo think it was shallower than it actually was. This problem was highlighted in a 1915 handbook, but by 1916 the U-boat school thought 'that the depth keeping of our torpedoes can be relied upon' and those torpedoes that passed under the target did so because of 'being fired at too close range [under 170m (185yd)] or owing to incorrect depth setting' (quoted in Compton-Hall 1991: 71–72).

After firing a torpedo a U-boat would often surface to finish off her quarry with the deck gun. The U-boat was a poor gun platform, however, because of rolling, and sometimes due to weather conditions deck guns could not be manned at all. The platform could be slippery and for the crew's safety they were attached with ropes and

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belts to the railings. Four men manned the deck gun: the gunner, gunlayer and loader, and the second watch officer.

Boats mounting two 8.8cm guns could carry 750 rounds, those with a single 10.5cm gun 400 rounds, and mixed-calibre boats could carry 210 rounds of 10.5cm and 170 rounds of 8.8cm ammunition. Watertight lockers fitted on deck near the gun on mixed-calibre submarines could house 12 10.5cm rounds and eight 8.8cm rounds. Each round was stowed nose down in a pressure-proof cylindrical holder sealed by a bung. As each round was taken from its holder, the bung was kept open for ballast. Further ammunition was passed by hand on U-class boats through the hatch, or in bad weather through the conning tower. Sometimes a traveller from the conning tower to the gun platform, running on the jump-wires, transported the rounds.

U-boat torpedoes

Mark	Size	Type	Explosive charge	Range and speed
C/06 (1907)	45cm (17.7in)	Dry heater	270lb	3,900yd at 27kts; 2,200yd at 32kts
C/06 D (1907)	45cm (17.7in)	Saltwater heater	270lb	6,500yd at 26.5kts; 3,300yd at 36kts
G/6 (1911)	50cm (19.7in)	Dry heater	353lb	5,500yd at 27kts; 2,200yd at 38kts
G/7 (1913)	50cm (19.7in)	Saltwater heater	430lb	10,170yd at 27kts; 4,370yd at 37kts
K III	50cm (19.7in)	Cold torpedo	430lb	1,600yd at 29kts; 1,300yd at 32kts

Q SHIPS

MOBILITY

The speed of any Q ship depended on what type of vessel it had been converted from. Most three-island tramp steamers were reliable seafarers capable of remaining at sea from 14–21 days, and making 10kts. Sailing ships could keep the sea as long as rations allowed (typically 21 days), but were slower (7kts in a moderate wind), could be becalmed without a motor, and were more vulnerable to storms. After being towed into harbour in January 1917 due to storm damage, *Mary B. Mitchell* was fitted with an auxiliary motor.

PROTECTION

For a Q ship to be effective its disguise, which needed to be maintained perpetually, had to hold up to scrutiny. By 1916 all British ships were painted alike, but neutrals needed a disguise. A steamer could start with a black-and-ochre-painted hull, fake timber on the deck, and a single funnel; this configuration could be adapted in

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numerous ways. Typically, Q ships had banners with the neutral's colours painted on them, which fixed onto slots on the ship's sides. Canvas screens were fitted that rolled down to cover them up when the ship opened fire. The banners were difficult to ship in bad weather, however, and became warped. In addition, black canvas tautly laced to a wire was often stretched along the forward and aft wells to disguise the well decks and give the ship a flushed-deck look, but this disguise could only be used in fine weather.

However, during an encounter with a submarine the disguise could fail. On 30 April 1917, 200 miles west of Ireland, when Korvettenkapitän Ernst Hashagen, commanding *U 62*, fired a torpedo at HMS *Tulip* – a Flower-class sloop of 1,500 GRT commanded by Lieutenant-Commander Norman Lewis – and approached closer to make an inspection, he observed 'concealing flaps were splintered and pushed aside by the explosion of the torpedo … on either side, under the bridge, a 3 inch gun. Aft, two flaps in the ship's side had fallen outwards, behind which these are evidently torpedo tubes' (Hashagen 1931: 139). Hashagen retired, submerged to a safe distance and then surfaced 2,200yd away. After rapid fire from his two 10.5cm guns the ship sank.

Changing the appearance after dark could be time-consuming, and most men slept in their clothes. On 20 May 1917, Lieutenant-Commander George Hewett's Q ship *Lady Patricia* was shelled by a submarine at 6,000yd. Hewett opened up and the submarine submerged. He wanted to return to the same position the next day, so changed disguise that evening in hazy weather: 'I dismantled bridge house, removed crow's nests, painted ship all over a different colour, and painted in large letters on

The principles and operation of the quick-firing gun were uniquely suited to a Q ship. In the context of naval operations, the term 'quick-firing gun' was first used to describe small guns firing a complete round consisting of a brass cartridge case containing the propellant and projectile; this enabled a rapid rate of fire, which was important to a Q ship's chances of mounting a successful ambush. Here, a 12-pdr on a tilted mounting is seen on board HMS *Hyderabad*. (Cody Images)

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2

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Q SHIP WEAPONRY

The quick-firing 12-pdr 12cwt gun (**1**), produced by Armstrong Whitworth, was first introduced in 1894 and used until the middle of the 20th century. The term '12-pdr' referred to the projectile weight and '12cwt' referred to the weight of the barrel and breech. Known as the 'long twelve' to distinguish the gun from the 8cwt variant, the 12cwt gun's heavy recoil made it suitable to static mounting on pedestals. The gunlayer, on the left side, manually traversed the gun; he used his left hand to operate the elevating hand wheel and grasped the pistol grip and trigger with his right hand. Rate of fire was 15 rounds per minute.

The quick-firing 4in Mk IV (**2**) was introduced in 1911 as a faster-loading successor to the breech-loading 4in Mk VIII, and equipped most Royal Navy destroyers. As with the 12-pdr, the projectile was loaded separately from the brass cartridge case containing the propellant, which meant two men could share the weight of loading. The term 'quick-firing' originated from the propellant being housed in a brass case, which replaced a bag. The case prevented propellant gas from escaping and so a sliding block rather than the old and slow breech-screw mechanism could be used for loading. A 31-pdr shell was fired at 2,376ft/sec, theoretically up to 10,000yd. Earlier Mks I–III fired a 25-pdr shell up to 9,000yd.

Earlier depth charges were filled with 100lb of TNT. By late 1916, Type D charges like that shown here in cutaway (**3**), for use by faster ships, were filled with 300lb of explosives, and smaller Type D* 120lb charges were introduced for slower vessels; both could be set to detonate at a depth of either 40ft or 80ft. In 1917 a hydrostatic pistol was developed to fire the explosive at 50, 100, 150 or 200ft, which allowed all vessels to use the 300lb charge safely. Concealed by racks, they could be rolled off the stern – or, from 1918 on some Q ships like HMS *Hyderabad*, propelled by throwers some 75yd. Pulling a lanyard set off a blast in the firing chamber and hot gases flooded a mortar-like tube, creating pressure that hurled the depth charge and its cradle – called an arbor – into the air. The arbor dropped away as the depth charge arced towards the target.

ship's side *TOSCA SVERIGE* as also Swedish colours on both sides. I also erected portable deck house and a camouflaged cargo of wood' (quoted in Ritchie 1985: 120). A submarine was probably watching, because at 1915hrs a torpedo hit the after gunhouse; another hit occurred 15 minutes later, disabling the ship.

Such measures were not confined to the sea lanes; concealment was also vital in port. On 5 November 1915 the Admiralty signalled Devonport, where *Lodorer* was fitting out, that 'Anonymous letters have been received indicating that fact of Lodorer being armed and prepared for special service is known' (quoted in Ritchie 1985: 77). The story that *Lodorer* had been sunk was promulgated, and was reinforced by having the crew write home. After leaving port with a new name, *Farnborough*, the donkey-boiler went up and big painted steel bands were fixed on – but because they were noisy and cumbersome, bands were painted on instead. To assist unobserved movement about the ship, the officers' quarters were below the bridge and the guns on the main deck adjoined the mess deck. The wireless aerial was disguised as a stay between the masts, and the feeder as a signal halyard. Such measures explain why Q ships could remain on patrol for weeks on end without raising the suspicions of wary U-boat commanders.

When an engagement did ensue, however, German fire could be lethal, and Campbell had 25mm armour plating added to *Dunraven*'s bridge for crew protection should a direct hit occur. To counter torpedo strikes, Q ships filled their cargo holds with buoyant material like timber, cork, empty casks and barrels. Bulwarks could be sealed off to prevent other sections of the ship from flooding. The Q ship *Stonecrop*

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had a concrete lining installed along most of her hull, but on 18 September 1917 a torpedo from *U 43* missed it by only 6ft and the ship sank.

Deception played a part in combat, too. Smoke-producing methods, such as burning dried seaweed in a metal drum, suggested a direct hit had been achieved and could persuade German gunners to keep firing inaccurately – or suggest all was safe for the U-boat to approach. By 1917 submarine commanders were 'afraid of getting too close to any ship for fear of being had'; in order to convince them the ship was on fire, Bayly stated that 'mess tubs of seaweed, rope-yarns or other similar material' were doused with burning coal to produce smoke (quoted in Ritchie 1985: 130–31).

ARMAMENT

If the U-boat had taken the bait, keeping the Q ship's guns concealed and then bringing them into action quickly and accurately proved key to a successful engagement. Steamers commonly carried a mix of 4in guns, 12-pdrs and 6-pdrs, trawlers 3-pdrs, and sailing ships 12-pdrs. On most steamers, often at the end of the engine-room casing or on the poop deck, a 4in gun was mounted in a collapsible deckhouse. Two 12-pdrs were commonly on either side amidships behind hinged plates; when a U-boat approached within range, pulling a lever would make the plates fall outwards from hinges at the bottom, revealing loaded guns to the U-boat commander in his conning tower. A tarpaulin, empty cargo crates, dummy lifeboats or even a wooden screen could cover smaller guns.

Depth charges – ashcan-shaped steel drums filled with TNT that exploded when water entered a bellows chamber and forced a plunger down to meet the primer at a pre-set depth – were also available to Q ships. In late 1915 *Farnborough* had four small, rudimentary depth charges each containing 100lb of TNT that were placed on trolleys ready to be run along on to the stern and thrown overboard. In 1916 only three U-boats were sunk by depth charge; however, the first success, in March, was by a Q ship – *Farnborough* – against *U 68* (in July 1916 *UC 7* and *UB 44* were hit by depth charges from other types of vessel). Overall, depth charges were indispensable to anti-submarine vessels and further developments increased their charge and how they could be dispensed, which made 'the work of the U-boat commander more difficult and reduced his chances of success and survival' (Fürbringer 1999: 117).

From July 1917 various types of bomb-thrower or howitzer that could launch an explosive charge to the area in which a submarine had last been seen, anything from 650yd to 2,600yd distant, were developed. They were primarily used for disabling a submarine on the surface or just after it had submerged. For example, the 7.5in naval howitzer was a breech-loading recoilless weapon firing a spherical 100lb bomb up to 2,310yd at 482ft/sec. The ammunition was designed to penetrate a submarine's outer hull before exploding against the inner hull; its usefulness was limited, however, because the bomb had no hydrostatic fuse to allow it to explode at a fixed depth. As the howitzer weighed only 35cwt, it could be mounted in small ships such as trawlers.

Torpedoes were increasingly carried by Q ships; 14in torpedo tubes were often disguised in the stern or could be housed amidships. British torpedoes were particularly unreliable, however; no U-boats were hit by an exploding torpedo fired from a Q ship.

Q ships carried a mixture of armament, then, dependent upon the type of vessel, the preferences of the commander, and the availability of weapons and ammunition.

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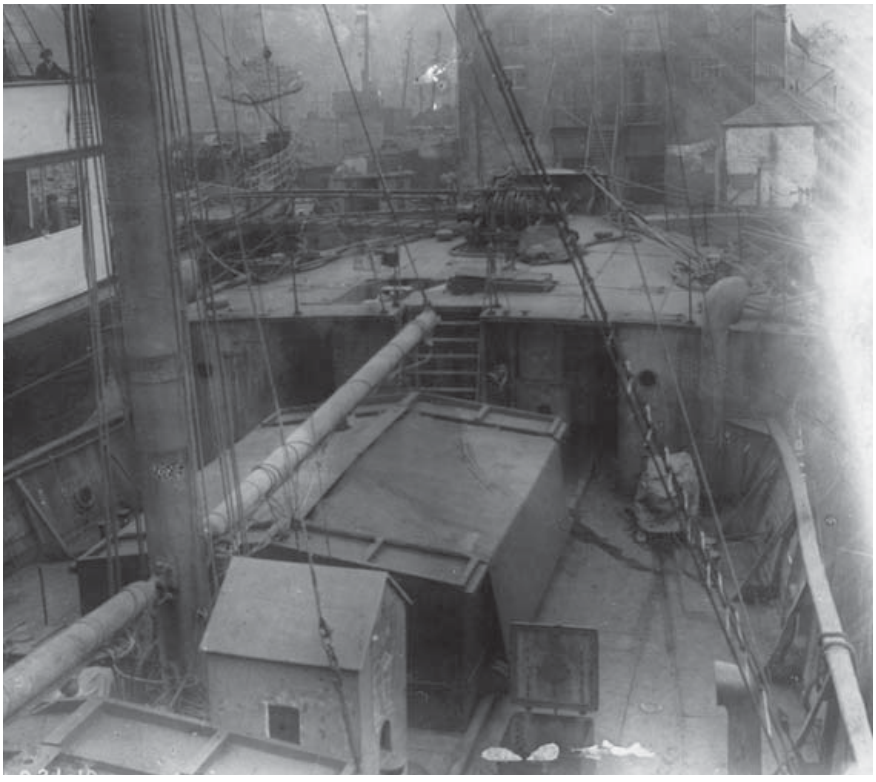

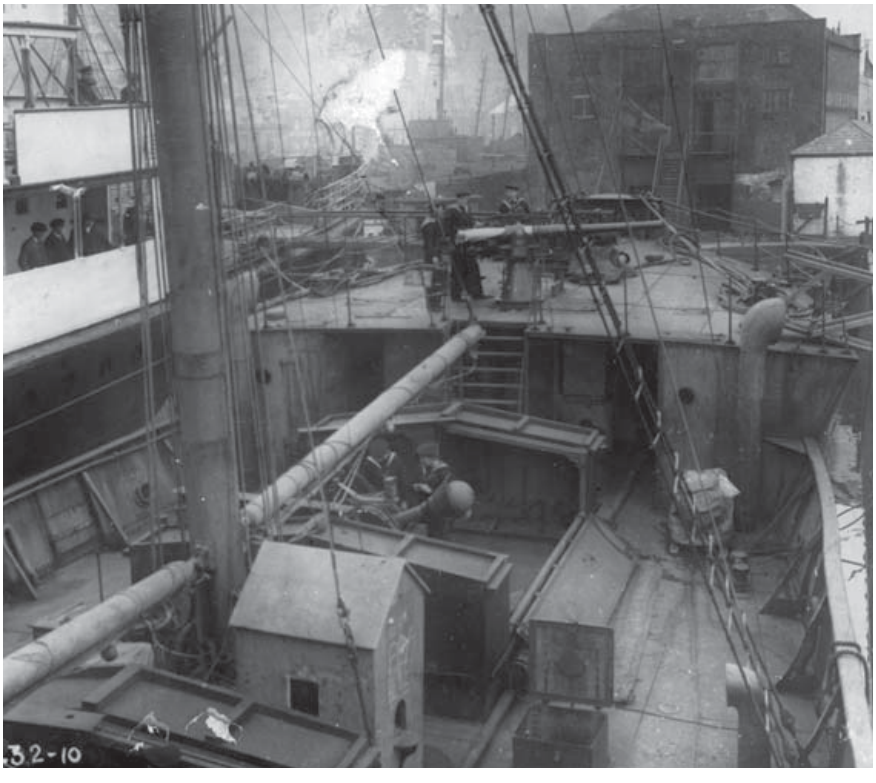

Hyderabad carried the largest howitzer employed aboard Q ships, a 200lb bomb-thrower. The weapon is shown here concealed and revealed. This 10in bomb-thrower was muzzle-loading and could fire either a normal shell or a spherical stick-bomb. Also visible is a tilting 12-pdr gun. (RN Submarine Museum)

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On *Penshurst*, the 12-pdr gun on the aft hatch was disguised by a lifeboat, which could be removed quickly because it was already divided in half. (State Library of Victoria)

For example, on *Dunraven*, a 331ft, 3,117-GRT collier, a roofless hatch on the poop deck concealed the 4in gun; the gun protruded just above the sides, so canvas draped over a derrick hid it from view. An arrangement to remove the deck rail and mainmast shrouds was devised to enable all-round fire. The rails were hinged to fall inwards and were connected to the hatch sides by wires. Also connected to the hatch were slips that were attached to the rigging of the mainmast. When a pin was removed, the 'sides of the hatch fell out and lay flat on the deck', which in turn pulled everything else clear (Campbell 2002: 235–36). The pin had to be kept secure in case it was accidentally dislodged. To the rear of the hatch, a steel drum with ropes reeled around it had small holes and concealed a periscope used by the gun commander; he entered the drum through a trapdoor. The magazine was below the poop deck. Four depth charges were carried beneath the poop, and torpedo tubes were inserted into the deck, one either side of the ship. Four 12-pdrs were also carried.

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THE COMBATANTS

PERSONNEL

GERMAN

Oberleutnant zur See Johann Spiess described how he was not at first enamoured of submarine service because 'in those days we looked at under-sea craft … with a sceptical eye'; he thought life aboard a U-boat was not 'anything to look forward to … close quarters, foul air, and crazy rolling and pitching' (quoted in Lowell 2002: 10). Fürbringer, before taking out *UB 2*, 'endured the arduous month-long training period at the U-boat School to earn the coveted description "Fit for the front"' (Fürbringer 1999: 11). After the Entente adoption of convoys, Fregattenkapitän Bauer organized a training day at Kiel, before sending his commanders into the Baltic to practise against mock targets, but by 1917 many German commanders were not as experienced as before.

Conditions at sea were rough. On the surface, a U-boat could be buffeted by vigorous waves like no other vessel, and experienced the full fury of the sea. In such weather, all too common in the Atlantic, the only respite was to be gained while submerged. Here, U-boat crews endured perpetual artificial light, oppressive heat, foul and damp conditions, and a cramped environment. Fürbringer, on board the small *UB 2*, described how, when he was forced to sit on the seabed overnight, he thought he was in 'a subterranean corridor, or the shaft of a coalmine' (Fürbringer 1999: 20). In contrast, Kapitänleutnant von Spiegel, in his larger U-boat, viewed such episodes

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U 35 loads a torpedo at sea. Not all servicemen were capable of enduring conditions aboard submarines. Robert Wilhelm Moraht, who served on *U 64*, described how 'a narrow corridor runs right through the steel fish from nose to tail. In the bow is a torpedo room, but so cramped is the space on board that the men and under officers live here together with their slim bunks one atop of another, and with tables and chairs that fold up when not in use.' Behind this were the warrant officer's mess room and kitchen, the officers' mess, the commander's cabin and wireless room, and 'just back of that is the *Kommando-centrale* with its wheels, pumps, ventilators, diving and steering machines, etc, etc. Astern of this are the Diesel and electric engines and the stern torpedo room with more sardine-like bunks for the crew. And along the whole length of the submarine, filling the space between an inner and an outer hull, are the diving tanks' (quoted in Lowell 2002: 257). (Cody Images)

as rather pleasant, writing that 'no other evening's rest can be compared with it' (Spiegel 1976: 46).

Relations between officers and enlisted men were particularly cordial. Fürbringer described the bond as 'our great strength' and recalled how 'I managed to arrange for the majority of the crew of the UB-2 to transfer to the new boat with me' (Fürbringer 1999: 46). Spiegel wrote how 'aboard the U-93 we had been like a gang of brothers. Most of my men had been with me since the beginning of the war. In summer the whole crowd had often visited my country place … I took them on pleasure jaunts' (quoted in Lowell 2002: 184). By January 1918 the volunteer system for U-boat crews had broken down, however, and both officers and men were drafted in. After *U 110* was sunk, the survivors 'were found, as had long been expected, to be very young and inexperienced. Clearly Germany was getting to the end of her resources as regards submarine personnel' (Chatterton 1922: 245). The strain for many was becoming too much.

Most U-boat commanders thought Q ships abhorrent. Hashagen thought the prisoners he captured off *Tulip* in April 1917 an 'evil looking crowd, like a very down at heel troop of actors; but that indeed was part of the big bluff' (Hashagen 1931: 137). Recalling his clash with *Prize*, however, Spiegel thought 'it was not so bad to have been defeated by such a fine chap and his nervy crew'; he 'marvelled at the bravery of these Britishers who in their hiding place could take a shelling and then run their gun platform out and start to fight' (quoted in Lowell 2002: 184).

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BRITISH

Initially, all Q ship captains were hand-picked from the regular Royal Navy. Later, volunteers were also accepted, including retired naval officers, reservists and merchant captains. Q ship captains set the tone for the rest of the crew; Lieutenant-Commander Campbell emphasized that 'Success depended on each individual, and that any one man could spoil the show' (Campbell 2002: 57–58).

Q ship complements depended on ship size and armament, but a steamer Q ship's was usually twice that of a merchant ship, typically 70–100 men. Crewmen had to endure boredom and the expectation that at any time they could be thrown into an intense fight, and needed to maintain the Q ship charade as best they could. During daylight hours, half the men were always at the guns or acting as lookouts while the remainder were in their mess, ready to make their way through the hidden alleyway if 'action stations' was called. When an encounter did occur, men had to be relied upon to show self-discipline, remain calm under fire and only fire back when ordered. Living in overcrowded conditions and staying at sea for long periods under constant threat from U-boats needed the right calibre of individual. So difficult were the living conditions and incredible the risks that on 23 November 1916, Vice-Admiral Bayly petitioned the Admiralty for extra pay for Q ship crewmen, confirmed by the Treasury on 15 December: 6 shillings a day for an officer, 2½ shillings for an NCO, and 2 shillings for a rating.

At first, a mix of merchant and navy sailors served on Q ships. Of obtaining the right sort of crew, Bayly wrote: 'it is necessary that officers and men shall be volunteers and be carefully selected. The gunlayers should be first-class shots with light guns, as it is necessary to be able to score hits with the first or second rounds with no aid from range finders, etc.'; however, he complained that 'At present officers and men appear to be drafted without any selection for the special duty' (quoted in Ritchie 1985: 108). In mid-1915, when Jellicoe concluded that more active regular sailors rather than merchant crewmen were needed, he offered to provide men for Q ships from the Grand Fleet. Although crews were almost always allowed to leave after each patrol, few did.

Q ship crewmen underwent unique training. 'Never in Naval warfare', commented Auten, 'had such an apparent rabble served his Majesty. It was a triumph of training over training'; because the crew did the work of an 'under-manned and over-worked tramp' they had to 'relearn practically everything that they had been taught' (Auten 2003: 25). The process of manning action stations and rehearsing the panic party to ensure an amateurish performance was practised at night, as was gunnery against a dummy conning tower and periscope. However, while ashore, appearing to be civilians did not benefit morale and Campbell noted his men complained 'girls would not walk out with them and they were attacked with white feathers' (Campbell 2002: 56). Able Seaman Hempenstall described how 'to cope with this we were issued with badges inscribed "On War Service", [also worn by dockyard workers] which I showed to a soldier … on Liverpool landing stage one day' (quoted in Thompson 2005: 200).

The Germans thought Q ship crews were *francs tireurs* who, because they did not wear uniform, did not have to be treated within the rules of war. To mitigate this view and comply with the Hague Convention, the Admiralty ensured captains raised White Ensigns before engaging. However, the actions of *Baralong*'s crew strained the relationship between Q ships and U-boats. Hempenstall recalled that 'we didn't think

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killing German U-boat crews was a big issue, it was perfectly reasonable' (quoted in Thompson 2005: 202). After hearing how many merchant ships were being sunk by U-boats and 'that their crews had no consideration for survivors … we were anxious to get hold of U-boat crews – we had no compassion for Germans' (quoted in Thompson 2005: 200). Further action to safeguard crews on Q ships was needed and by September 1915, to comply with international law, all were commissioned, which meant all merchant crewmen needed to join the Royal Naval Reserve (RNR).

By 1917 the Admiralty was calling for volunteers for 'Special Service' – especially on board sailing vessels, as sailing experience was rare in the Royal Navy. In January 1917 volunteers were needed for the Q ship schooner *Result* at Lowestoft, for work aboard which was described as 'dangerous, at periods monotonous, and not free from discomfort' (quoted in Lake 2006: 130). Lieutenant G.H.P. Muhlhauser RNR volunteered for service and was selected as second-in-command because he was an amateur yachtsman (the commanding officer, Lieutenant P.J. Mack RN (Retd), had little experience of sailing vessels). (Malcolmson)

COMMAND AND COMMUNICATION

GERMAN

The decision-making abilities of the U-boat captain, who was the only link with the surface, were crucial to the crew's chances of survival. As Keble Chatterton observed, it was 'not easy for the German to combine ruthless attack with reasonable caution' (Chatterton 1922: 253). The captain was assisted by a navigating officer, a warrant officer who was usually a former merchant seaman. Kapitänleutnant Georg Forstner described how 'The commander must possess the absolute confidence of his crew, for their lives are in his hands. In this small and carefully selected company, each man … knows that each one is serving in his own appointed place, and they perform their duties serenely and efficiently' (Forstner 1917: 15). Spiegel noted how maintaining composure was essential for a U-boat commander, who had to make the 'right decision at the right instant. One glance must suffice to grasp the situation, and in the moment, the mind must be made up and the order issued' (Spiegel 1976: 22). Hashagen thought UB-class commanders were often young and inexperienced junior officers whose main concern was to win promotion to the larger U-class boats.

U-boat commanders had to become used to making decisions independently. Submarines sent as few messages as possible to avoid detection, and used their receivers more than their transmitters. To avoid the delay of setting up the masts, jump feeders that stretched from the bow and stern to the conning tower allowed messages to be intercepted directly the submarine surfaced. On the UC class, a hinged mast was fitted by the engine-room hatch, and the aerial from the mast led forward to the bow.

Even so, U-boat commanders did benefit from data gathered and analysed by German naval intelligence; Q ships involved in failed engagements became marked for future attack, extensive dossiers on them were compiled, and in March 1917 there was a concerted German campaign against them. The advent of the depth charge was quickly noted by

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the U-boat forces; *U 49* was 'the first submarine to bring back definite information of this potent device' (Gibson 2002: 178). On 6 May 1917, after attending a conference where *U 49*'s commander narrated how he was bombed by depth charges, Oberleutnant zur See Johann Spiess wrote how 'a new and potent piece [was] introduced onto the chessboard of war under the sea … the news made quite a sensation' (quoted in Lowell 2002: 211). He subsequently observed how the shell shock experienced by his crew after a depth-charge attack made daily practice dives clumsy.

BRITISH

Much was expected of the Q ship commander: he needed to exhibit thoughtful anticipation of a U-boat's actions, not be prone to panic or making hasty decisions, and be able to enforce rigid discipline by firm leadership. Some were considered not up to the mark and were fired. Like their adversaries, Q ship commanders had to use their initiative. Initially, Bayly gave orders to captains, but 'after a few months I used to go to sea without any sailing orders and just report each day what I was doing' (Campbell 2002: 76). Q ships were rarely assigned a specific target; the sweep by eight Q ships for U-boat cruisers returning from the United States in 1917 was a rare event and not productive. Sometimes an area was designated to a captain. Cruising in operational submarine areas offered the best chances of an encounter. There was 'No use a mystery ship going to a place where a submarine had been: you had to go on a track you thought he might be going to' (Campbell 2002: 25). Once a route was decided for the day, no change could be made without rousing suspicion.

Months might pass before a U-boat was encountered, because Q ships located U-boats mainly by sight. Admiral Beatty described the problem 'as looking for a needle in a bundle of hay, and, when you have found it, trying to strike it with another needle' (quoted in Koerver 2010: xx). In 1916 the introduction of hydrophones (submerged microphones that could detect underwater sound 1–2 miles away) offered little improvement. Until late 1918, in order to use such technology, steam Q ships had to be stationary so their engine noise did not interfere; this was rarely possible at the start of an engagement. Furthermore, early models could not discern the direction from which sound emanated, and certainly could not keep up with a U-boat constantly altering course and speed. (In contrast, sailing ships could use them even when on the move.)

More useful were location reports about U-boat sightings from other ships and information from direction-finding stations, which intercepted U-boat signals by taking bearings on and triangulating the emitted signal. U-type boats that cruised into the Atlantic often signalled their presence every four hours, although Flanders-based submarines rarely employed wireless communications. According to Hans Koerver, 'the positioning was imprecise, accurate only within a 5–50 mile radius, but that was enough to give the Royal Navy a tactical advantage' (Koerver 2010: xix). Room 40 of the Director of Naval Intelligence could also decode messages from U-boats; this provided information about the submarines' future whereabouts. Overall, the Admiralty was well off for sources. A report compiled in the 1920s (ADM 116/3421) concluded: 'As soon as a U-boat began to operate in our waters, her presence and her position were known, as a rule, first vaguely by wireless or other information, and then in some detail a day or two later when attacks were reported or when survivors from sunk ships had been landed and questioned' (quoted in Koerver 2010: xix). However, the tactical benefit

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Q ship Royal Navy crewmen studied the habits of their merchant crewmen shipmates in order to imitate their habits; uniforms were not worn (the Admiralty provided a small allowance to purchase nondescript, second-hand clothing – £3 and 30 shillings for officers and ranks respectively), slovenly behaviour exhibited, and no salutes given or returned. Here the crew of *Hyderabad* can be seen in both service and civilian attire. (Cody Images)

was often slight, as dissemination of intelligence was slow. More important at a strategic level were human intelligence sources. A disgruntled German officer, Marineingenieur Dr Karl Krüger, sent detailed reports on the U-boat construction programme, enabling the War Cabinet to judge future anti-submarine warfare requirements; and debriefing reports from prisoners of war provided information on morale, tactics and training.

Either because of intelligence received or following reports of recent attacks, Q ships could be sent to areas where U-boats were known to be loitering. In June 1917, for example, *Pargust* went to Dingle Bay because German mines had recently been found there; this led to her encounter with *UC 29*, whose commander was seeking targets for his three torpedoes. In August 1917 Campbell, on *Dunraven*, received wireless reports 'which indicated that an enemy submarine was busy in the Bay, and furthermore that her commander appeared to favour his gun in preference to torpedoes, as ships were being attacked by gunfire' (Campbell 2002: 249).

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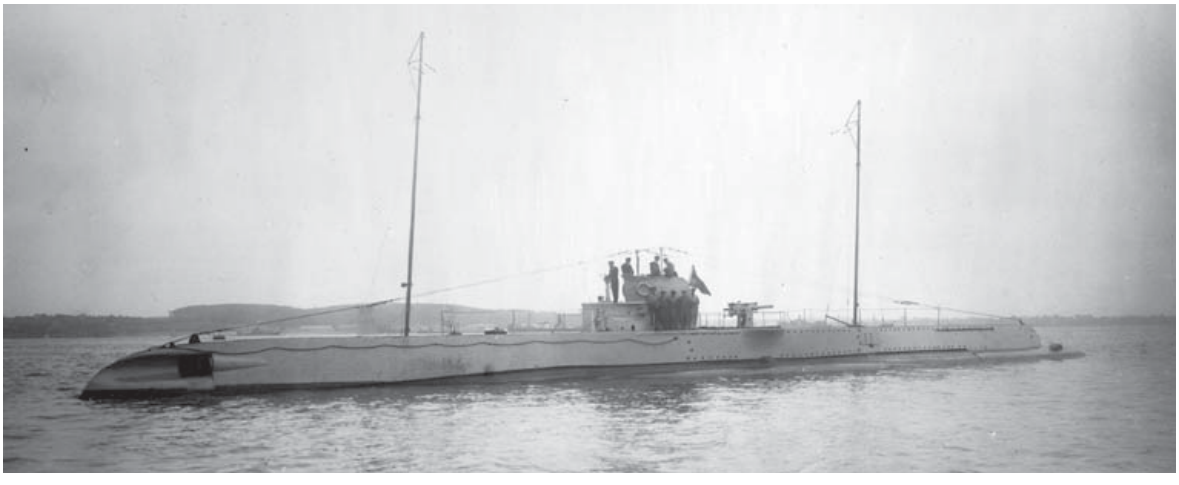
TACTICS

GERMAN

U-boats on the surface could keep out of sight of a merchant ship, but manoeuvring into an attack position was not straightforward. Because a torpedo left behind a wake of discharged air on the surface, on a clear day a U-boat captain would wish to close in order to reduce the chances of being spotted; a torpedo fired from 770yd away could be dodged, but one fired from 330yd was deemed to be unavoidable. Enemy vessels would also zigzag, so U-boat commanders monitored changes in direction and speed through the periscope. When a torpedo was fired, 'the tendency was for the bows to rise with a kick like a mule'; in order not to expose the U-boat's presence, 'all hands rushed forward and restored the trim with their combined weight' (Fürbringer 1999: 41). Submarines usually attacked from downwind to disguise the periscope, as 'white horses' would be moving in the same direction as the feather produced by the torpedo. During daytime, if the sun was low, the submarine would attack with the sun behind it. The last stage of the attack would often be conducted with power provided by the electric motors, so as to avoid detection. U-boats often sought to get ahead of approaching steamers – a dangerous position to be in, as merchant ships were quicker – and in some cases successfully rammed them. Hashagen, however, thought this a risk worth taking, for 'with too much caution we would never get on with the war' (Hashagen 1931: 109).

Torpedoes were not always used because submarine commanders needed to give an account of their cruise upon return and wanted ship's papers as proof of the number of ships they had sunk. Furthermore, they were rationed because so few could be carried; for example, on *U 36*, although seven were carried, the commander had to have good reason to expend more than four on one patrol, and used his two 8.8cm guns whenever possible. In the early years, U-boat commanders would often allow lifeboats to be lowered from the target vessel before boarding to place a bomb on board or using the U-boat's deck armament to sink the ship. Even so, by 1917 the torpedo had become the safest weapon of choice, and in the period 1 February–30 April 1917, 516 of 781 ships attacked were targeted with torpedoes (374 were sunk and 111 escaped).

The masts on the U-type boat, here seen on *U 80*, were 30–40ft high and 80–90ft apart; a hinge allowed them to lie flat when not required. They were raised by wire from inside the hull, either by hand or electrically. The aerial was fitted between these masts. During the day, transmitting range with the aerial on the mast was reliable at distances of 100–200 miles, and could reach 300–700 miles in some circumstances; at night, these distances doubled. The wavelength for transmitting was usually 1,312ft, but could be between 980ft and 2,690ft. (Bundesarchiv Bild 134-B0522 Foto: o. Ang)



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ERNST HASHAGEN

Ernst Hashagen's first appointment was as a torpedo officer on *U 10* in April 1915. His initial 'nervousness gave place to a deep and firm trust in this wonderful instrument' (Hashagen 1931: 73). As commander of *UB 21* from February to November 1916, Hashagen realized the 'danger of being treacherously fallen upon by submarine decoy ships', and thought 'never have craft and cunning, disguise, deception, and trickery been applied so subtly and so systematically', but was not put off and met with some success off the Humber (Hashagen 1931: 101). He believed that Q ships were 'a brilliantly conceived piece of camouflage' (Hashagen 1931: 103) and remarked that in February 1917 'we could see, all too clearly that the British had been rehearsing' (Hashagen 1931: 107). In this duel, 'the victor of today was often the victim of tomorrow' (Hashagen 1931: 112). By then he had been given command of *U 62* (from December 1916 to December 1917 and again from March to November 1918), taking his boat to the Azores because the sea was empty. He sank 54 ships (125,000 GRT) and a warship. After the war he wrote about his wartime experiences in his book *U-Boote Westwarts* and, together with Commander N.M. Lewis, his adversary as commander of *Tulip*, gave a talk in Reading about their confrontation.

WERNER FÜRBRINGER

At the start of the war Werner Fürbringer was an *Oberleutnant zur See* on *U 20* as the first watch-keeping officer, before being transferred on 20 February 1915 to be commander of one of the first UB-class boats, *UB 2*. In October 1915 his first encounter with a Q ship occurred when he came across an innocent-looking trawler (his brother Bernhard, the commander of *U 40*, had survived the sinking of his boat by a trawler/submarine combination in June). After crash-diving to escape almost certain destruction, Fürbringer found that the torpedo he fired hit the bottom because he was too close to his target.

On 29 April 1916, Fürbringer was given command of *UB 39*. On one sortie he sank no fewer than 16 ships. On 22 November 1916 he commissioned a new boat, *UC 70*, and between February and May 1917 hit 29 ships. However, when the submarine was damaged in harbour by gunfire from a British monitor, Fürbringer was temporarily transferred to *UC 17* to replace its commander, who had fallen ill. He again survived an encounter with a Q ship, this time *Mary B. Mitchell,* a sailing vessel, before being given a new submarine, *UB 58*, on 10 August. After a sortie during which none of his torpedoes worked, he was given convalescence leave.

U-boat crewmen, who suffered appalling conditions of service, exhibited unique qualities. (Bundesarchiv Bild 102-03388 Foto: o. Ang)

Upon his return to active service on 23 March 1918, Kapitänleutnant Fürbringer again took charge of a new boat, *UB 110*, which would be his last. On 19 July, while attacking a convoy, he was depth-charged and forced to the surface.

Fürbringer sank 102 ships (98 of them merchant ships), but no Q ships. He was awarded the Iron Cross First Class on 1 January 1917, having gained the Iron Cross Second Class on 1 January 1916. In 1933 he re-entered the Kriegsmarine, and retired in 1943 as a *Konteradmiral.* He passed away in 1982 at the age of 91.

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GORDON CAMPBELL

Campbell was commanding HMS *Bittern*, a destroyer based at Plymouth, when war broke out, but was soon sent for by the Admiralty and asked whether he would like to volunteer for special service. In October 1915 he took command of his first Q ship, HMS *Farnborough*.

Campbell became the most successful Q ship captain, with three victorious engagements. He was a hard taskmaster – his first lieutenant on *Farnborough*, Lieutenant William Beswick, left because he 'found the strain too much' (Campbell 2002: 129). Campbell was an innovative developer of new deception techniques: he transmitted false signals claiming problems with his ship, and correlated reports of U-boat activity. Before introducing these new tactics, Campbell gave every man the opportunity to return to General Service, but all declined. As was common practice, Campbell took his crew to *Pargust* and *Dunraven*, which ensured a strong camaraderie.

Gordon Campbell exhibited all the qualities of a successful Q ship commander. He believed strongly in discipline and training, and was respected by his crew. (Malcolmson)

In October 1915 he was a lieutenant-commander, but two years later he was a captain and the most decorated British naval officer in the war, having been awarded the Victoria Cross and three Distinguished Service Orders. Three Q ships would be torpedoed under him and he would sink three U-boats in six encounters. After sinking *U 83*, Campbell was told personally by HM the King that he was to receive the Victoria Cross. Q ship captains lasted on average nine months, but Campbell served nearly two years. On *Dunraven*, he was determined to sink his adversary even though he was faced with the imminent sinking of his own vessel.

After *Dunraven* was sunk, Campbell carried on as Bayly's flag captain and then commanded the cruiser HMS *Active*. He was promoted rear-admiral in 1928, but was retired at 42 because of government cuts, which he bitterly resented. He passed away in 1953.

GODFREY HERBERT

Born in 1884, Godfrey Herbert joined the Navy as a cadet aged 14 and became a submariner in 1904. An unconventional maverick fond of practical jokes, he would swap between submarine and Q ship service throughout World War I.

Herbert's command style could be seen as lackadaisical and may have encouraged poor discipline, but to others it was inspirational. He told his NCOs: 'I can't enforce discipline in this ship … I'm going to leave it all to you. If you want any help, just let me know' (quoted in Thompson 2005: 200).

At the end of January 1915 he took command of the Q ship *Antwerp* before persuading the Admiralty to give him

Wearing ceremonial dress, Lieutenant-Commander Godfrey Herbert is pictured here in jovial mood on board a submarine in 1916. (RN Submarine Museum)

Baralong. Herbert's subsequent confrontation with *U 27* proved to be the most controversial engagement between a Q ship and submarine. His next command, *Corrigan Head*, was badly damaged when he dropped a depth charge too close, which made a gun fire a shell into the superstructure. In June 1917, by now a commander, he again had success when in charge of the armed trawler *Sea King*, with the probable sinking of *UC 66* with depth charges.

In November 1919 he retired from the Navy, but with the outbreak of war in 1939 he was recalled to command the armed merchant cruiser *Cilicia* until 1943. He passed away in 1961.

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The events surrounding *Baralong*'s sinking of *U 27* on 19 August 1915 provoked a storm of controversy; the crew of *Nicosian*, the merchant vessel under attack by *U 27*, included Americans who testified Herbert's men had shown no quarter. Subsequent press attention exposed the Q ship ploy to international attention and made the Q ships' task of enticing submarines more difficult. Some German commanders now decided that torpedo attacks against civilian and neutral shipping were justified. This postcard is an example of how the German authorities brought attention to the alleged war crime. (Malcolmson)

By 1917 the Germans knew Q ships were hoping to withstand a single torpedo hit and still fight back. On 27 January 1917, Fregattenkapitän Bauer ordered his U-boat commanders to prosecute the campaign 'with utmost vigour'; he stipulated 'no boat to ship communication', and made specific reference to the Q ship:

> When a ship, abandoned by her crew, is to be sunk by gunfire, she should be approached from aft; she is then not in a position either to ram or to open fire, as the U-boat traps with hidden armament, reported to date, in every case had their guns on the broadside. A trap will endeavour without exciting notice to keep her beam on to the U-boat and will turn accordingly. Beware of this! When approaching keep one bow torpedo ready for firing, with the tube flooded, and keep the enemy under fire; have the boat ready for diving and no men on deck except those actually required. As a rule, expend only one torpedo on each ship stopped … she should be finished off with gunfire, if possible. (Quoted in Tarrant 1989: 46)

BRITISH

On 20 July 1915, Admiral Colville at Scapa Flow sent sailing orders to Lieutenant William Mark-Wardlaw on the Q ship *Prince Charles*; these orders would become standard for most Q ships. They read:

> I wish to impress on you to strictly observe the role of decoy. If an enemy submarine is sighted make every effort to escape; if she closes and fires immediately stop your engines and with the ship's company (except the guns' crews who should most carefully be kept out of sight behind the bulwarks alongside their gun and one engineer for the engines) commence to abandon ship. It is very important if you can do to try and place your ship so that the enemy approaches from the beam … Allow the submarine to come as close as possible and then open fire by order or whistle hoisting your colours. (Quoted in Bridgeland 1999: 9)

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Actions were a battle of wits between the opposing commanders. To appear as a harmless merchantman trying to escape, a Q ship would adopt an irregular zigzag course and produce heavy funnel smoke to give the impression it was going full ahead. Instead, though, the Q ship would gradually reduce speed to ensure the U-boat could catch up, while the British crew hoped the U-boat commander would decide to surface within range to use his guns. If a near-miss on the Q ship occurred, the captain would order steam to be produced by a specially fitted steam pipe in order to simulate a hit and try to attract the U-boat closer. Fake wireless signals were transmitted that mimicked those of a harried merchantman.

Panic boats, rigged as a full ship's company, would then go over the side. Panic-party orders specified that the 'boat will pull away, either towards the land or towards the submarine'; because the submarine would invariably close, 'the boat should not be allowed to close the submarine nearer than 200 to 300 yards. When this occurs, the ship should open fire, whatever distance the submarine is off … the best procedure would be for the boat to row away, so that the ship is between the submarine and the boat' (quoted in Ritchie 1985: 15). The crew would scramble about the main deck in confusion, and generally make a commotion of launching the lifeboats. The U-boat commander frequently sought to approach the lifeboats to find out the ship's identity and establish what cargo was carried, so the lifeboat crew would manoeuvre into a position that would force the German commander to bring the submarine amidships to the Q ship in front of its guns.

The Q ship captain, using periscopes and observation slits to monitor events and voice pipes to relay commands, would make the decision when to open fire, preferably at point-blank range. On his order 'Let Go!' the White Ensign was raised and the guns revealed. By 1917, however, most U-boats opted to torpedo merchant ships without warning before engaging on the surface. Rear Admiral Sims believed that U-boat commanders had been issued with a guide on how to detect Q ships:

> In order to make the sides of the ships collapsible, certain seams were unavoidably left in the plates, where the detachable part joined the main structure. The U-boat commanders soon learned to look for these betraying seams before coming to the surface. They would sail submerged around the ship, the periscope minutely examining the sides, much as a scientist examines his specimens with a microscope. (Quoted in Ritchie 1985: 128)

Countering these new German tactics was hard for Q ship captains. Their best hope was to benefit from the impulsiveness or inexperience of a U-boat commander, or to maintain a convincing charade to persuade an ambitious German skipper that all was safe. In order to tempt submarines closer, Q ships prepared for and invited a torpedo attack. On 1 February 1917, the day he started his patrol, Commander Campbell knew that the Germans had begun intensified submarine warfare and entered into the order book: 'should the Officer of the Watch see a torpedo coming, he is to increase or decrease speed as necessary to ensure it hitting' (quoted in Bridgeland 1999: 71). If his ship did not sink, the submarine would probably surface to use its guns. He thought that this tactic 'although a big gamble, gave more hopes of success' (Campbell 2002: 250).

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COMBAT

The commerce war conducted by the U-boats can be divided into seven phases. Phase I covers the period between Britain's declaration of war on Germany on 4 August 1914 and Germany's first commencement of unrestricted submarine warfare on 18 February 1915; Phase II is the period from 18 February to 6 June 1915, when U-boat commanders were ordered to use their guns rather than their torpedoes to attack; Phase III is the period from 6 June to 30 September 1915, by which date the High Seas boats' withdrawal from the commerce war had taken effect; Phase IV covers the period between 1 October 1915 and 30 September 1916 while the German leadership debated naval strategy; Phase V starts on 1 October 1916, by which date the High Seas boats had again been instructed to conduct attacks on merchantmen, and continues to 1 February 1917, upon which date unrestricted submarine warfare was resumed; Phase VI covers the period of unrestricted submarine warfare prior to the Entente adoption of convoys on 10 May 1917; and Phase VII covers the period from 10 May 1917 to the end of the war.

OPPOSITE
A picture of *U 29*, a U 27-type boat, taken from a nearby merchant ship she had intercepted; it shows the disparity in height between such vessels. Kapitänleutnant Bernhard Wegener was taken completely by surprise by *Baralong* – 34 12-pdr shells struck his conning tower and hull, and the U-boat began to sink. Lieutenant-Commander Godfrey Herbert, 'fearing they might scuttle or set fire to the ship with her valuable cargo of mules and fodder', later recalled how he 'ordered them to be shot away; the majority were prevented from getting on board, but six succeeded' (quoted in Thompson 2005: 202). (Malcolmson)

THE Q SHIPS' FIRST VICTORIES: 6 JUNE–30 SEPTEMBER 1915

Although *Victoria* was briefly in Q ship service from November 1914, and was joined by *Antwerp* until April 1915, no Q ship sinkings of U-boats occurred until June 1915, by which time Lieutenant-Commander Godfrey Herbert's *Baralong* had already been active for three months. When success did finally come for the Q ships, it initially appeared to vindicate the use of decoy ships acting in conjunction with submarines.

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On 23 June 1915 the trawler *Taranaki*, commanded by Lieutenant-Commander H.D. Edwards, and submarine *C24*, commanded by Lieutenant F.H. Taylor, sank *U 40* – commanded by Oberleutnant zur See Gerhardt Fürbringer, Werner's elder brother – off the east coast of Scotland. On 20 July the combination was again successful when *Princess Louise*, commanded by Lieutenant C. Cantlie, and *C27*, commanded by Lieutenant-Commander C.C. Dobson, sank Oberleutnant zur See Hans Schulthess's *U 23* after a panic-party ploy was used.

Following *Prince Charles*' sinking of *U 36* on 24 July, the first occasion of a Q ship trawler operating independently sinking a U-boat was on 15 August, off the Norfolk coast near Smith's Knoll, when Oberleutnant zur See Karl Gross's *UB 4* came alongside the fishing schooner *Inverlyon*, commanded by Chief Petty Officer Ernest Jehan; the British vessel opened up at 30yd and sank her.

BARALONG VS *U 27*, 19 AUGUST 1915

Since her commissioning in March, Lieutenant-Commander Godfrey Herbert's *Baralong* had not encountered any U-boats. On 19 August 1915, while patrolling the Western Approaches off the Isles of Scilly, Herbert – with American colours flying that identified his vessel as *Ulysses S. Grant* – heard a signal from the liner *Arabic*, reporting a torpedo hit. Herbert did not find *Arabic* because she provided wrong coordinates, but encountered another steamer, *Nicosian*, carrying 750 mules and other supplies from the United States for the British Army, under attack from the guns of Kapitänleutnant Bernhard Wegener's *U 27*.

As he approached the scene, Herbert hoisted the international distress flag for 'am saving life' as evidence of his intention to pick up survivors. He thought the U-boat 'altered course, apparently with the idea of preventing me effecting a rescue. The moment she was out of sight behind *Nicosian* I struck the neutral colours and hoisted the White Ensign, and trained two guns just in front of that vessel's bow, ready for the next appearance of the submarine, which I knew would be at close range' (quoted in Ritchie 1985: 58–59). Able Seaman Hempenstall described how the deception worked:

Sub-Lieutenant Gordon Steele, Herbert's first lieutenant, is shown here on the right, beside Herbert. He had attended the Merchant Navy School with a scholarship from P&O before being mobilized for the RNR, and risked his life by snatching out a round from a jammed 12-pdr gun and hurling it overboard. In the encounter with *U 27*, Herbert thought it was 'due to his smartness that we received no shot from the enemy' (quoted in Ritchie 1985: 59). Steele said that when German sailors boarded *Nicosian*, Herbert told him to sink the ship, but *Nicosian's* rescued captain persuaded Herbert not to. (RN Submarine Museum)

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> … we crept up behind the steamer, keeping her between us and the U-boat, which was about 600 yards off. The order to clear away guns was given, the US flag came down, the name boards were dropped, and the White Ensign was hoisted. As we cleared *Nicosian*, the submarine came in view. He fired a shot across our bows to stop us, and that was the last round he fired. (Quoted in Thompson 2005: 201)

Survivors, including Wegener, swam for *Nicosian* and began scrambling up the nets. Herbert then sent a party of marines onto *Nicosian*. No prisoners were taken.

On 18 September 1915, orders were given to U-boats to end unrestricted warfare and the High Seas Fleet responded by withdrawing U-boats from the commerce war. Before the order was enacted *Baralong,* now under Lieutenant-Commander A. Wilmot-Smith, scored a second success on 24 September, sinking Kapitänleutnant Claus Hansen's *U 41* in the Western Approaches.

Here, *UB 38* prepares to leave harbour. Following the sinking of *UB 19* by ***Penshurst***, Lieutenant-Commander Francis Grenfell explained how unprepared the U-boat was when she surfaced: 'the attention of all on the deck of the submarine was directed towards our boats, no one was by her gun, and no attempt was made to return our fire. I was told that our second shot, fired from the starboard three-pounder, penetrated he engine room and prevented submersing' (quoted in Bridgeland 1999: 63). Fürbringer was commander of *UB 39*; compared to *UB 2,* his previous command, UB II-type boats were 'twice the size and equipped with two diesel engines instead of one, which provided a radius of action three times greater' (Fürbringer 1999: 46). (Bundesarchiv Bild 134-0555 Foto: o. Ang)

STALEMATE: 1 OCTOBER 1915–30 SEPTEMBER 1916

Once the Kaiser ordered a resumption of the commerce war in March 1916, Lieutenant-Commander Gordon Campbell, having not encountered any U-boats during his first six months in command of *Farnborough*, on 22 March 1916 sank Kapitänleutnant Ludwig Güntzel's *U 68*, on its first patrol, off the south-west coast of Ireland; all the U-boat's crew were killed. The only Q ship loss to a U-boat in this period occurred on 14 August 1916 when the 3,660-GRT *Remembrance* succumbed to Kapitänleutnant Max Valentiner's *U 38* in the Aegean Sea.

FARNBOROUGH VS *U 67*, 15 APRIL 1916

The suddenness of an encounter and the importance of maintaining fire discipline were starkly illustrated by Campbell's next encounter with a submarine before the Kaiser again brought in new regulations that led to Scheer withdrawing the High Seas boats from the commercial sea lanes. At 1830hrs on 15 April, steaming north in a heavy mist and rolling swell in the same position where he had encountered *U 68*, Campbell observed a large Dutch ship moving towards him. Then close by 'a submarine was suddenly seen on the surface' – *U 67*, commanded by Kapitänleutnant Hans Nieland, which had intercepted the Dutchman and now, having seen *Farnborough,* 'hoisted a signal', which Campbell could not distinguish; he nearly stopped and indicated, by signal flags, he could not understand the submarine's message. He also readied an officer to take the ship's papers across 'to allay suspicions as well as entice the submarine nearer' (Campbell 2002: 117).

Nieland could not read Campbell's signals, and with the panic boat nearly away 'he fired a shot at us which whistled overhead' (Campbell 2002: 117). Hearing the shot, a British 12-pdr crew opened fire, thinking others

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had done so and for some reason they had not received the order. Campbell had no choice but to order all his guns to open fire; Nieland recalled that 'shots initially fell short, but with a rapid rate of fire' (quoted in Lake 2006: 120). Campbell reported '20 rnds were fired … there were three good hits … The *Farnborough* was rolling between 5 and 10 degrees which made the firing rather slow' (quoted in Bridgeland 1999: 83). The range – 1,000yd – also hampered the gunners, and the submarine successfully dived. Campbell steamed over the spot where the submarine had disappeared and dropped his last two depth charges (Campbell recalls only dropping one, but Nieland remembered two). Nieland described their effect: 'at 20 metres [22yd], violent detonation close to the boat, at 25 metres [27.5yd] another detonation.' Nieland descended to 35m (38.5yd) before successfully escaping. He tried to work out whether he had been the intended victim of an ambush, but correctly concluded 'it unlikely that she was working with the Dutchman' (quoted in Lake 2006: 120). *Farnborough*'s crew were awarded £1,000 on the presumption the submarine had sunk.

COMMERCE WAR RESUMED: 1 OCTOBER 1916–31 JANUARY 1917

Although German submarine activity in the commerce war came to a virtual stop over the summer of 1916, in late September 1916 U-boats again resumed their attacks against merchant ships, but under Prize Regulations and with strict orders to spare neutrals. As before, the Q ships benefited from this restriction and only the 4,350-GRT *Perugia* would be sunk off the north-west coast of Italy by Kapitänleutnant Otto Schultze's *U 63* on 3 December 1916.

PENSHURST VS *UB 19*, 30 NOVEMBER 1916

By late 1916, U-boats were frequently using torpedoes against British merchant ships; but German commanders of the smaller UB boats carried just four torpedoes and would instead attempt to intercept their targets on the surface, which Ernst Hashagen described as 'a hard, nerve racking and dangerous business' (Hashagen 1931: 93) and not what he

Campbell described the accuracy and rapidity of his gunnery: 'Twenty-one rounds were fired from the three 12 pdr guns. About 200 rounds from the Maxim and rifles were also fired. The shooting was good, especially observing the range and bad light – several hits being observed before the submarine slowly disappeared. I steamed at full speed over the spot and dropped a depth charge' (Campbell 2002: 81). (Cody Images)

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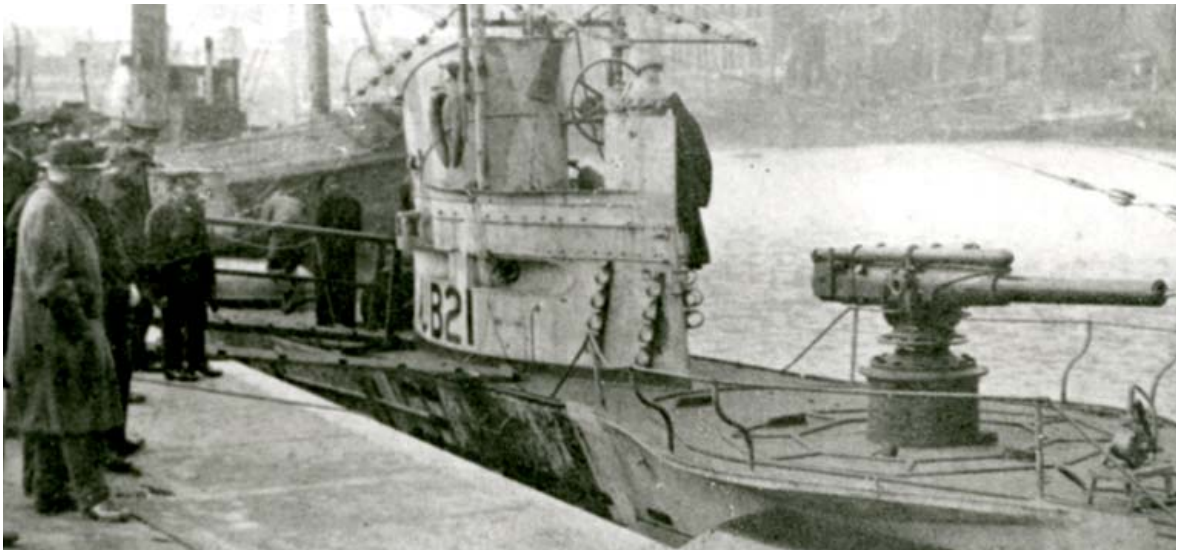
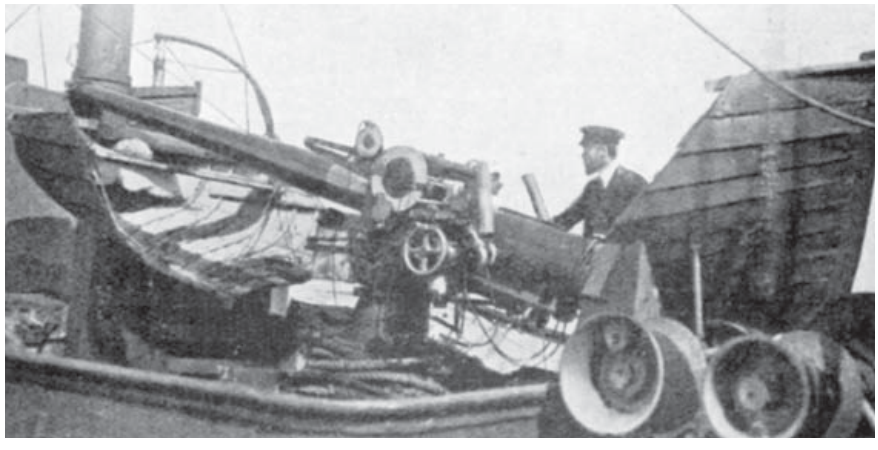


RIGHT
Grenfell is pictured here dressed as a master mariner behind the 12-pdr disguised in a fake lifeboat. The coil of rope seen around the gun's pedestal also helped to hide it from observation. On 14 January 1917, *Penshurst*'s encounter in the English Channel with *UB 37* under Oberleutnant zur See Paul Günther would be more trying, as German gunnery from the submarine's 5cm deck gun was more accurate. The U-boat initially opened fire at 3,000yd, and Grenfell sent off a panic party and brought *Penshurst* broadside on; the U-boat maintained fire for 20 minutes and approached within 700yd of the steamer's bow, hitting the bridge with two well-aimed shots. He reported that one hit broke 'the pipe connecting the hydraulic release gear with the starboard D-type depth-charge'; another put his 6-pdr out of commission. Grenfell decided to open fire, and his gunners showed their proficiency. The first shot from this 12-pdr 'hit the base of the conning-tower and caused a large explosion as though ammunition had been exploded' (quoted in Ritchie 1985: 132). (State Museum of Victoria)

had trained for at the submarine school at Eckernförde. Therefore Q ship encounters with these submarines – which, as they were based in Zeebrugge, mostly occurred in the Channel – could be successful, especially as UB boats were often commanded by less-experienced and very ambitious officers.

Lieutenant-Commander Francis Grenfell's *Penshurst*, like Campbell based at Queenstown, mostly steamed into the Channel to attract U-boat attack. At 1350hrs on 30 November 1916, off Alderney, Grenfell observed the steamer *Ibex* under attack. A seaplane from Portland bombed the U-boat before Grenfell approached and the submarine – *UB 19* under Oberleutnant zur See Erich Noodt, out from Zeebrugge since 22 November – submerged. Grenfell co-opted the pilot, Flight Sub-Lieutenant J.R. Ross, to spot for him while he dropped depth charges. However, the seaplane crashed into the sea on take-off. As *Penshurst* picked up Ross, the submarine surfaced and opened fire from 6,000yd.

Then, Grenfell reported, 'at 4.12 pm when she was within 1,000 yds of us, I stopped engines, the boat party abandoned ship and the two boats pulled away to starboard'



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(quoted in Bridgeland 1999: 63). Noodt manoeuvred around the stern, intent on 'obtaining the ship's papers from her Master, whom they assumed would be in one of the boats, before boarding the ship and sinking her with explosives'. When the U-boat was 250yd away Grenfell opened fire; the encounter resembled gunnery practice. *UB 19* was critically damaged and sank; Noodt and 15 other crewmen survived. Grenfell's crew still had to endure the fire from Noodt's 5cm gun, however, and Grenfell brought to the Admiralty's attention 'the admirable steadiness displayed by all hands during the rather trying time (nearly an hour) we were being shelled without replying. Fortunately we were not hit' (quoted in Ritchie 1985: 114).

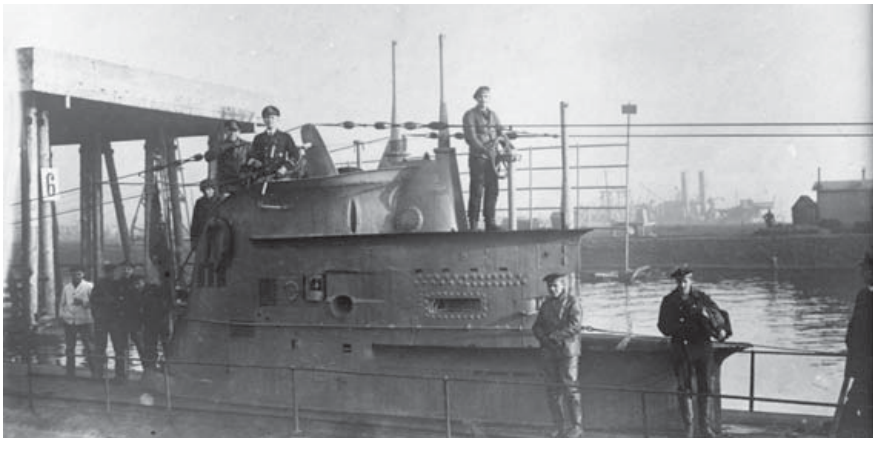
OPPOSITE
Here *UB 21* – also a UB II-type boat – with its small 5cm gun can be seen after surrendering at Ramsgate. Hashagen was commander of *UB 21* from February to November 1916; following successful completion of sea trials and firing trials at the submarine school at Eckernförde, he took his boat to sea. (RN Submarine Museum)

U-BOATS IN THE ASCENDANT: 1 FEBRUARY–9 MAY 1917

On 1 February 1917, unrestricted submarine warfare was declared. Q ships needed to be able to absorb the damage a torpedo hit could cause; with more ballast, ships could stay afloat for longer after being struck. German commanders displayed more wariness when surfacing to finish off their victim, in case their quarry was a Q ship in disguise; the strategic importance of the campaign against commerce was such that despite carrying more torpedoes, the German submariners were told to conserve them for other targets. Even so, in March 1917 Campbell and Grenfell would best two of the most modern U-boats in the German inventory.

On 17 February 1917, Campbell's *Farnborough* sank Kapitänleutnant Bruno Hoppe's *U 83*; only one officer and one enlisted man from the submarine survived. Campbell was awarded the Victoria Cross, and every man on board when the torpedo hit received recognition. Badly damaged, *Farnborough* was towed to shore and successfully beached, but the ship's career as a Q ship was at an end.

Two days later, Oberleutnant zur See Wilhelm Kiel's *UC 18* went down with the loss of all hands off Saint-Malo after a lethal encounter with the Q ship *Lady Olive*; the British vessel also sank, but her crew was later rescued by a French destroyer.



When Campbell encountered *U 83* the submarine was the most modern in the German U-boat fleet: 12 torpedoes were available, as well as a 10.5cm and an 8.8cm gun. U 81-type boats were fast, capable of 16.8kts surfaced, and they could also travel up to 11,200 miles. This picture shows *U 86*, another U 81-type vessel, leaving port. (Bundesarchiv Bild 134-0582 Foto: o. Ang)

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Ominously, two more Q ships would be sunk by U-boats during this three-month period: on 13 March 1917, Kapitänleutnant Victor Dieckmann's *U 61* sank Commander T.W. Biddlecombe's *Warner*, while on her first patrol, south-west of Ireland; and the sloop *Tulip*, commanded by N.M Lewis, was defeated by Kapitänleutnant Ernst Hashagen's *U 62* on 30 April.

PENSHURST VS *U 84*, 22 FEBRUARY 1917

Like Campbell's encounter with *U 83*, Grenfell's 22 February engagement with another U 81-type boat – Kapitänleutnant Walter Röhr's *U 84*, south-east of Minehead, Ireland – started with a torpedo shot by the German commander from 440yd away. Unlike Hoppe, Röhr missed his target and decided to surface at 3,500yd and shell with his 10.5cm gun rather than expend another torpedo. Grenfell's panic party took to their boats; Röhr closed to 1,500yd before submerging, inspecting and emerging again, 600yd away and broadside on. A German officer asked for the ship's papers from the panic party, which – as *Farnborough*'s had done – pretended not to understand and rowed so as to bring the submarine around to where the 12-pdrs in the false deckhouses could target her. The range was slightly greater than when *Farnborough* opened up against *U 83* and the results were not quite as decisive (probably because *Penshurst* was not sinking, so Röhr stood further off).

Röhr recalled that at 1449hrs, when the British guns were revealed, the 'conning tower [was] hit five times'; he dived and withstood a depth-charge attack, but soon observed that 'several connections between the tower and the hull [were] no longer watertight' and the 'forward horizontal rudder jams' (quoted in Lake 2006: 141). He had no steering and the boat was at a slant. He had to surface, and at 1510hrs observed *Penshurst* 3,000yd away. He could have won a gunnery duel at this range but this would have taken time, and by 1917 other anti-submarine vessels were prolific. Indeed *Alyssum*, a Flower-class sloop, appeared to help Grenfell; Röhr thought a destroyer had arrived, and engaged at 6,500yd – maximum range for both vessels – before making a hasty retreat on the surface. Although the hydroplane had stuck and the control apparatus and the main rudder had broken, by 2000hrs Röhr was out of sight. Scheer thought 'it was little short of a miracle that, in spite of such heavy damage, she reached home' (quoted in Lake 2006: 142).

While by 1917 merchant Q ships were rarely engaged on the surface, this was not the case for sailing Q ships. The topsail schooner *Result*, shown here, was commissioned as a Q ship in February 1917 and was equipped with a pair of 12-pdrs plus torpedo tubes. On 15 March 1917, near Dogger Bank, *Result*, commanded by Philip Mack RN and operating out of Lowestoft, duelled with *UC 45*. After incurring a hit from the stern 12-pdr at the base of the conning tower and a 6-pdr hit on the conning tower itself, the submarine disappeared, prompting Lieutenant G.H.P. Muhlhauser on board *Result* to comment: 'we certainly gave them a lesson in gunnery' (quoted in Chatterton 1922: 84). On 4 April, however, after another encounter with a 'very nasty, large, hostile submarine, which could both outrange and outmanoeuvre us ... the game seemed up' (quoted in Chatterton 1922: 91). Only the arrival of other anti-submarine vessels ensured *Result*'s survival. (Cody Images)

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Having left Emden on her maiden voyage on 13 April, *U 93* had already sunk ten vessels in eight days (four sailing vessels and six steamers, and four were sunk to Prize Regulations), when on a fine spring day her commander, *Kapitänleutnant* Spiegel, detected a sailing ship under full sail near the Isles of Scilly; she was moving north-west, parallel to and 2 miles away from him, in a light north-north-east wind and calm sea. After the introduction of convoys, sailing vessels were popular targets. Spiegel initially decided to let the ship go. (Bundesarchiv Bild 102-03330 Foto: o. Ang)

PRIZE VS *U 93*, 30 APRIL 1917

On 30 April 1917, about 180 miles south of Ireland, *U 93* – the most modern boat then in service, commanded by Kapitänleutnant Edgar von Spiegel von und zu Peckelsheim – encountered a sailing Q ship, HMS *Prize*. He wrote later of how he had 'heard of sailing ships with British submarines in tow – neat trap' (quoted in Lowell 2002: 181) and he was concerned that *Prize* was one of these. However, his first lieutenant, Oberleutnant zur See Wilhelm Ziegner, persuaded him to attack. Spiegel was suffering from the bane of all U-boat commanders: he had only two torpedoes left, so he was intent on surfacing and using his guns. He approached from the stern at half-speed and at 2040hrs fired a warning shot at 4,000yd, which was ignored. He decided to overtake, firing one shot every minute as he went. At 2045hrs Sanders brought the ship into the wind and launched the panic crew. *U 93* continued to approach from astern until she was within 150yd.

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HMS *Prize* was a wooden three-masted schooner of 199 GRT armed with three 12-pdr guns, commanded by the recently commissioned 34-year-old New Zealander Lieutenant William Sanders RNR. The ship was built in the Netherlands in 1901, but had been in German service before its capture in 1914. Spiegel had only two torpedoes left, so surfaced and used his guns. The German commander wanted to be satisfied that the ship had been abandoned, and continued firing. The U-boat then approached the stern. Sanders explained how, since the start of the submarine's approach, 'a total of 16 rounds had been fired, two of which struck the waterline, exploded inside, and caused considerable damage. The motor was put out of action, the wireless room wrecked, the mainmast shot through in two places, and all the living rooms shattered … the ship also began to make water at a fairly rapid rate' (quoted in Lake 2006: 159). Sanders recalled how 'my anxiety was great as the after gun would not bear right astern owing to the position of the wheel.' However, 'when about three points abaft the beam and distant 80yds I considered that the critical moment had arrived. It was then 21.05, and the order was given to down screens and open fire … Almost as soon as our screens were downed the enemy opened fire' (quoted in Lake 2006: 159).

After bombarding *Prize* for 40 minutes, Spiegel thought 'nobody would stay aboard and take that amount of shelling'; he closed to 80yd and then stopped on the ship's port beam in order to sink her. He then heard 'a loud whistle aboard the schooner … a movable gun platform slid into view … one shell put our fore gun out of commission and wounded several of the gun crew. Another crashed into our hull'. Shells also exploded within the Q ship, injuring the mechanic and putting one of the diesel engines out of action. Another detonated within the wireless cabin, wounding the operator. With his bow gun destroyed, Spiegel tried to ram, but Sanders kept *Prize* outside his turning circle, so the German commander moved his boat away to bring the aft gun into action. He ordered the gun manned and 'three men responded to the command. I leapt forward, and we four worked the gun' (quoted in Lowell 2002: 182). Before a German shell could be fired, however, *Prize*'s aft gun struck again and ruptured the compressed-air tank that was located under the U-boat's gun; an explosion sent Spiegel and two crewmen into the sea. The submarine was in a parlous state. Other hits struck *U 93*'s stern. Within a few minutes the submarine was on fire and her bows rose in the air. Sanders noted how 'altogether 36 rounds were fired before the submarine disappeared from sight' (quoted in Lake 2006: 160). The panic party picked up Spiegel and two crewmen (Steuermann Knappe, the navigating officer, and Obermaschinistenmaat Deppe).

Sanders asked if Spiegel's men knew anything about diesel engines. Deppe took a look and 'a few moments later I heard the engine start' (quoted in Lowell 2002: 186). Meanwhile on *U 93,* Ziegner discovered that his commander and two other men were missing. He felt compelled to order a dive, but 'with those gaping holes, the U93 was no longer able to submerge. We could do nothing except stay on the surface and make a last effort to hobble out of range of the British fire. The thickening darkness was our ally here.' He described the damage: 'her upper works shot to pieces and the deck pierced by eight gaping shell holes … for a distance of thirty feet the deck was nothing more but a mass of ripped and shredded metal'; diving tanks were blown open and oil bunkers were 'leaking like sieves', and the hatch 'simply did not exist anymore', which made diving impossible; fuel oil had been lost and the radio was not working. Ziegner 'expected every moment to see her sink under my feet' (quoted in Lowell 2002: 193–195). However, despite the damage, and showing the survivability of the latest boats, Ziegner traversed around Scotland and back to Germany, blowing his tanks regularly – every half hour in rough weather. The Kaiser decorated him personally.

CONVOYS AND THE Q SHIPS' ECLIPSE: 10 MAY 1917–11 NOVEMBER 1918

On 10 May 1917 the Entente adopted the convoy system, transforming the commerce war. *Pargust*'s sinking of *UC 29* on 7 June 1917 would be the last success against Germany's submarine fleet for the Q ships.

In total, 20 Q ships, including *Penshurst* on 24 December, would be sunk by U-boats after 11 May 1917; the last was Lieutenant Harold Auten's *Stock Force*, sunk

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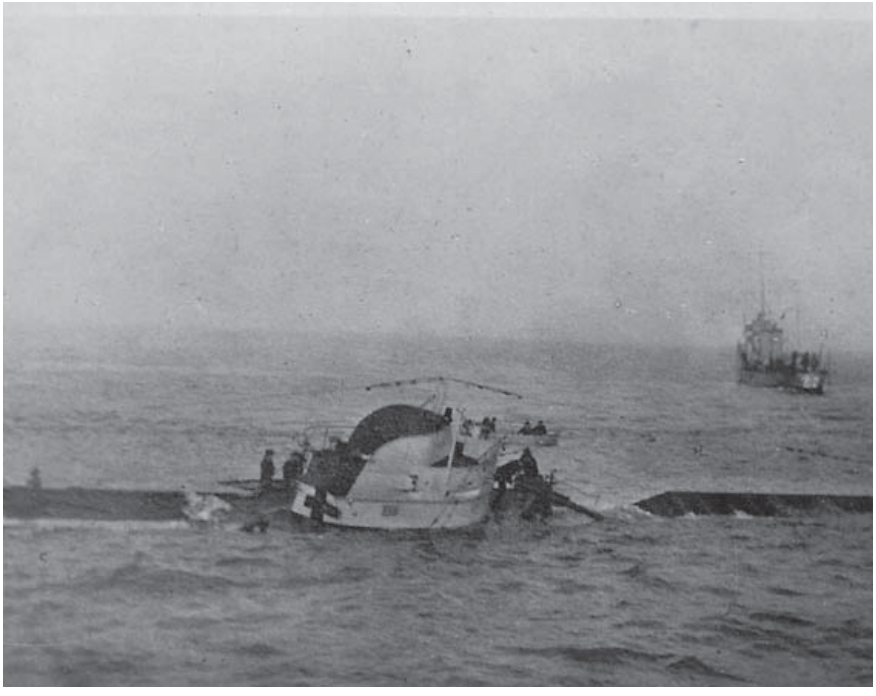

Compared to UB II-type boats the UC II-type boats were well armed, with an 8.8cm deck gun and seven torpedoes. Most mine-layer UC boat commanders would use their torpedoes only after they had laid their mines, which was their primary mission. Here *UC 39*, a UC II-type boat, can be seen sinking after an engagement with the destroyer HMS *Thrasher* on 8 February 1917. (Malcolmson)

by Kapitänleutnant Max Viebig's *UB 80* on 30 July 1918. Auten won the Victoria Cross for this action.

PARGUST VS *UC 29*, 7 JUNE 1917

With *Farnborough* in ruins, Campbell moved his crew to a new Q ship, *Pargust*, which began operational service on 28 March 1917. At 0800hrs on 7 June 1917, 50 miles from Ireland, *Pargust* was hit in the engine room by *UC 29* under Oberleutnant zur See Ernst Rosenow. The damage to *Pargust* was severe: a 40ft hole was blown in the ship's side, the aft bulkhead had collapsed, and the engine room, boiler room and No. 5 hold had flooded. The blast freed the securing pins that held the starboard gun screen in place, and 26-year-old Able Seaman William Williams RNR took the whole weight of the screen on himself so it would not fall to reveal the gun behind.

At 0815hrs, as the last boats of the panic party were shoving off, a periscope was seen. Rosenow had closed and circled *Pargust* on the port side to look for any signs of concealed weapons; seeing none, he then broke surface at 0833hrs 50yd away, his bow pointing at *Pargust*'s stern. Eventually an officer with a megaphone appeared in the conning tower, giving orders to the panic-party boat. Campbell realized that 'As long as he was up I knew I could withhold my fire' (Campbell 2002: 221). In the boat, Lieutenant Francis Hereford – who had abandoned ship clutching a cage with a parrot inside – realized that the stern-mounted 4in gun could not depress its barrel sufficiently to target the U-boat, so he pulled away to the starboard side of the decoy, ignoring the German officer in the conning tower who continued to shout at him. The U-boat followed, passing close to *Pargust*'s stern before pulling clear, far enough for the 4in gun to bear. Campbell later reported: 'At 8.36 a.m., the submarine bearing one point before the beam distant about 50 yards, as all guns would bear, I opened fire –

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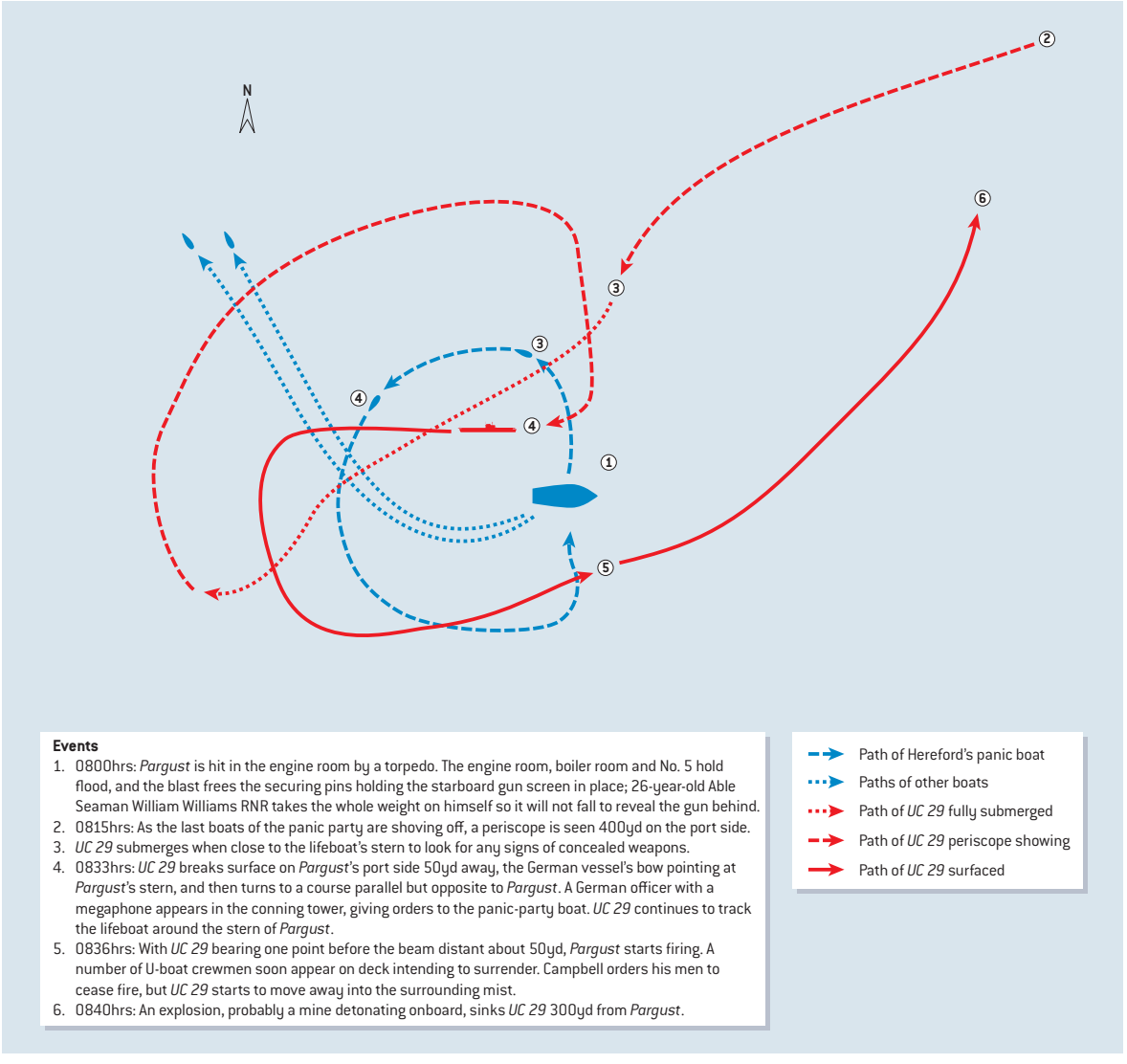
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Events
1. 0800hrs: *Pargust* is hit in the engine room by a torpedo. The engine room, boiler room and No. 5 hold flood, and the blast frees the securing pins holding the starboard gun screen in place; 26-year-old Able Seaman William Williams RNR takes the whole weight on himself so it will not fall to reveal the gun behind.
2. 0815hrs: As the last boats of the panic party are shoving off, a periscope is seen 400yd on the port side.
3. *UC 29* submerges when close to the lifeboat's stern to look for any signs of concealed weapons.
4. 0833hrs: *UC 29* breaks surface on *Pargust*'s port side 50yd away, the German vessel's bow pointing at *Pargust*'s stern, and then turns to a course parallel but opposite to *Pargust*. A German officer with a megaphone appears in the conning tower, giving orders to the panic-party boat. *UC 29* continues to track the lifeboat around the stern of *Pargust*.
5. 0836hrs: With *UC 29* bearing one point before the beam distant about 50yd, *Pargust* starts firing. A number of U-boat crewmen soon appear on deck intending to surrender. Campbell orders his men to cease fire, but *UC 29* starts to move away into the surrounding mist.
6. 0840hrs: An explosion, probably a mine detonating onboard, sinks *UC 29* 300yd from *Pargust*.
Path of Hereford's panic boat
Paths of other boats
Path of *UC 29* fully submerged
Path of *UC 29* periscope showing
Path of *UC 29* surfaced

This map illustrates the engagement between ***Pargust*** and ***UC 29***. ***Pargust*** is shown stationary in the middle. The tracks of ***UC 29*** and the lifeboats from ***Pargust*** as they moved around the Q ship have been plotted.

a torpedo was also fired on the off chance but missed astern. The first shot from the four-inch gun hit the base of the conning tower' (quoted in Ritchie 1985: 141). A number of crewmen appeared on deck through the after hatch apparently intending to surrender. Campbell ordered his men to cease fire, but *UC 29* started to move away on the surface into the surrounding mist and many of the crew were washed away.

To prevent the escape (*Pargust* was unable to pursue), Campbell commenced firing again, making use of the only weapon that he could now bring to bear – the 12-pdr gun on the forecastle. When the submarine was clear of the bow a last salvo was fired. At 0840hrs Campbell described how 'an explosion took place forward [probably a mine detonating] and the ship sank about 300yds from the ship, falling over on her side'. Leutnant zur See Hans Bruhn (who had rushed on deck to man the gun but had been washed away by a fresh southerly wind) and Bootsmannsmaat Stelan (an engineer) were saved; according to Campbell Stelan was 'delighted to hear his Captain had gone.

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Able Seamen William Williams RNR, who was given the VC by ballot, is acclaimed by a crowd. According to Campbell, the action might never have taken place had Williams not held up the starboard gun screen. The first lieutenant, Lieutenant Ronald Stuart, also received the VC by ballot. Campbell praised 'the men in the boats, especially the lifeboat, [who] ran a great risk of being fired on by me if the submarine closed [towards] them' (quoted in Ritchie 1985: 142) and also gave the forecastle crew particular recognition; if any of them had 'moved an inch he would have spoilt the show' (Campbell 2002: 226). (Malcolmson)

Said he would talk if no other crew were saved' (quoted in Ritchie 1985: 142). *Pargust* was towed into port for repairs and Campbell's crew soon transferred to a new Q ship, *Dunraven*. Rosenow had been taken unawares despite having commanded his submarine for nearly a year. He had left base on 25 May and on 3 June was probably responsible for damaging the Q ship *Mavis* with a torpedo; if, as is thought, his boat was responsible for this attack, then perhaps he thought he was not due another encounter with a Q ship.

On 20 June 1917, Kapitänleutnant Werner Fürbringer in *UC 17* encountered a sailing ship that turned out to be the Q ship *Mary B. Mitchell*, commanded by Lieutenant J. Lawrie. The submariner opened fire at 5,000yd, but because of the fading light was not sure whether he had found his mark. After approaching nearer and landing a further six shots close, Fürbringer submerged and inspected the ship at close range with his periscope. When he surfaced, the ship immediately started firing and he manoeuvred away to fire a torpedo, but *Mary B. Mitchell* had also moved off and could not be found. *Mary B. Mitchell*'s gunners had opened up too early. (© IWM SP 1295)

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Here *UC 29*, having followed the panic-party boat around the stern of *Pargust*, is sidling along *Pargust*'s right flank. A German officer standing on the conning tower, megaphone in hand, is shouting a command to the panic party; an armed crewman is standing next to him. Lieutenant Hereford in the panic-party boat ignores him and has now turned in to row towards *Pargust*. The Q ship captain, Gordon Campbell, has patiently waited for *UC 29* to pull clear of the stern, far enough for the 4in gun to bear. The blast from the torpedo fired by *UC 29* had freed the weights that held the starboard gun port in place, and Able Seaman William Williams RNR had held it in place for 36 minutes to maintain the charade. Now Campbell signals 'Let Go!' and his guns open up.

DUNRAVEN VS *UC 71*, 8 AUGUST 1917

At 1143hrs on 8 August, in the Bay of Biscay, Campbell, now commanding *Dunraven*, was engaged by *UC* 71 under Oberleutnant zur See Reinhold Saltzwebel, who decided to use his 8.8cm gun rather than waste a torpedo. In order to make it appear that *Dunraven* was trying to escape, Campbell ordered an irregular zigzag course and made heavy funnel smoke, but actually reduced speed to ensure the U-boat could catch up. He ordered a dense cloud of steam to be released from perforated pipes to convince Saltzwebel that his shells were scoring hits, and sent out a radio message in clear – 'submarine chasing and shelling me. Help, come quickly' (quoted in Lake 2006: 179) – that also contributed to the deceit.

At 1240hrs, when the U-boat was 1,000yd away, the panic party purposely made a hash of launching the lifeboats, lowering one from only a single davit so it hung vertically down from the ship. Saltzwebel, encouraged by such pandemonium, closed and continued to fire. On board *Dunraven* a depth charge exploded, propelling a 4in gun-crew member, Seaman Alexander Morrison, through the poop doors; Lieutenant Bonner, the gun commander, was blown out of his observation drum, but crawled into the 4in gun hatch. Other German shells hit the stern and threatened to explode the ammunition in the magazine below the gun. The whole ship could have blown up if the magazine in the poop exploded.

Absorbing any more damage could result in disaster, yet Campbell wanted the U-boat to close further before ordering his hidden guns to open up. At 1258hrs the submarine was passing the stern and 'it was only a matter of seconds before he would be clear on the weather side and within 400 yards of my three 12-pounders'; however, 'at this instant a terrific explosion took place and the whole ship shivered' (Campbell 2002: 259).

Some of *Dunraven*'s crew – including Petty Officer Ernst Pitcher, featured here on a postcard for 'Navy Days' – manhandled boxes of cordite on to their laps to prevent the hot deck igniting them. Pitcher was awarded the VC for his conduct during the action. A shipmate, Seaman William Bennison, described the desperate situation: 'we thought, if we abandon ship we'll give the game away so we stuck though the decks were getting red hot where we were laid and kneeling' (quoted in Lake 2006: 180–181). (Malcolmson)

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Another round from the U-boat had exploded the last three depth charges, throwing the 4in gun and its crew vertically into the sky. Miraculously, all the crew survived by landing on the fake canvas railway carriages on the well deck. Lieutenant Bonner (who would receive the VC by ballot) was stunned but crawled to the bridge to report to the captain. By then Campbell had ascertained that Saltzwebel 'knew what we were and I knew that he would torpedo us' (Campbell 2002: 261). Campbell opened up with the 12-pdrs, but Saltzwebel crash-dived and at 1320hrs fired a torpedo from 1,000yd; it hit *Dunraven* near the engine room, which started to flood. A second panic party was ordered to abandon ship in the one remaining boat and improvised rafts, and the lifeboat carrying the first panic party rowed back to help. *Dunraven*'s stern was ablaze, the shells were exploding, but the crew still manning two 12-pdrs endured.

Saltzwebel circled *Dunraven* for an hour to inspect the damage. At 1430hrs he surfaced 450yd off *Dunraven*'s stern and used his deck gun for 30 minutes, hitting the poop deck. A shell also burst on the British bridge and splinters went everywhere. Campbell survived because of the armour plate he had installed. At 1455hrs the submarine again submerged and approached within 150yd. Campbell could only use a torpedo and personally fired the port-side tube, but at such short range it flew harmlessly over the submarine. The U-boat was unaware of the threat and moved to *Dunraven*'s starboard side, where at 1502hrs Lieutenant Hereford fired another torpedo. The torpedo hit, but no explosion occurred. Saltzwebel did not know that Q ships were equipped with torpedoes, but upon hearing the clang dived deeper before finally giving up the pursuit as he had none of his own left. After a gruelling three-hour action, Campbell signalled for help; two destroyers took *Dunraven* in tow, but she foundered at 0317hrs on 10 August. On 11 August, *UC 71* arrived safely back at Zeebrugge.

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STATISTICS AND ANALYSIS

The Q ship concept emerged early in the war when no other method seemed likely to counter the U-boat threat. Admiral John Fisher was one of the few senior Royal Navy officers to recognize the threat they posed to merchant ships, but was largely ignored. Prime Minister Asquith refused to believe that a civilized nation would deliberately target civilian ships, which would be a violation of international law. Investment in anti-submarine warfare technology had, therefore, been virtually non-existent before the war. Q ships seemed the only available countermeasure, but one historian has gone so far as to say that they were 'a tremendous effort and use of resources for very small results' (Messimer 2003: 111).

In fairness, Q ships were always intended to be an interim measure: because their employment was a passive strategy and relied on the aggressor targeting the vessel, most knew they would never on their own defeat the U-boats, and that the best that could be achieved was to mitigate the U-boat threat to buy time for more active measures to be devised. The surprise factor had led to some early successes for Q ships. New tactics and disguises won further victories for both sides and enabled Q ships to flourish until late 1917, helping to mitigate the threat to commerce that could have humbled Britain, but the advent of more effective technologies, platforms and tactics finally rendered them obsolete.

Campbell was critical of the Admiralty's development of the Q ship concept: 'it is a mistake to use it until you are ready to do it on a big scale' (Campbell 2002: 292). Up to 1917, there was no single command responsible for all Q ship operations. Local headquarters and even individual captains could and did exert considerable influence.

OPPOSITE

On this map all confirmed sinkings have been plotted. All encounters where U-boats were sunk by Q ships occurred close to the British Isles. The vast majority of instances where Q ships were sunk by U-boats also occurred in home waters, with only a few further afield.

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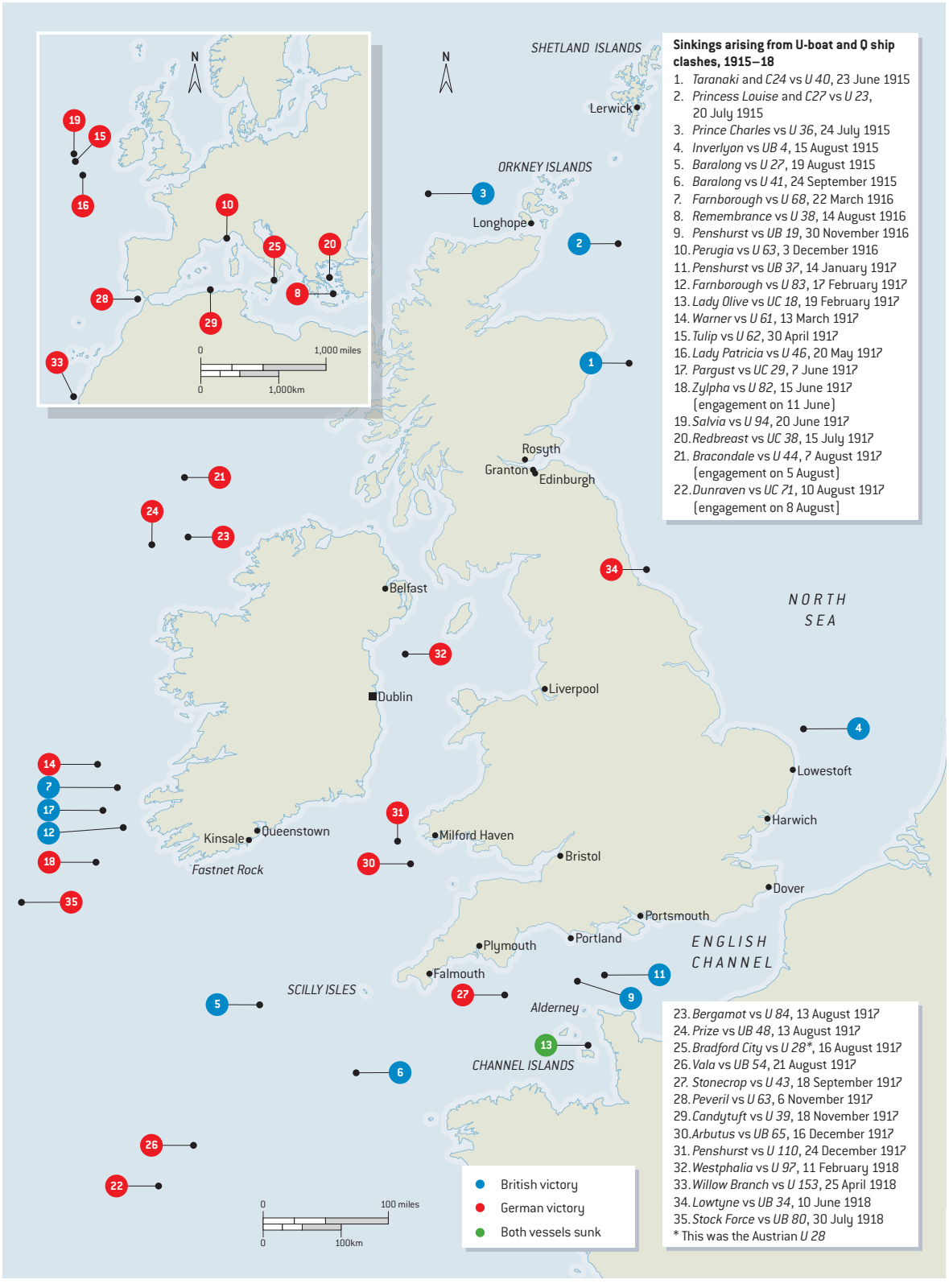

Sinkings arising from U-boat and Q ship clashes, 1915–18

1. *Taranaki* and *C24* vs *U 40*, 23 June 1915
2. *Princess Louise* and *C27* vs *U 23*, 20 July 1915
3. *Prince Charles* vs *U 36*, 24 July 1915
4. *Inverlyon* vs *UB 4*, 15 August 1915
5. *Baralong* vs *U 27*, 19 August 1915
6. *Baralong* vs *U 41*, 24 September 1915
7. *Farnborough* vs *U 68*, 22 March 1916
8. *Remembrance* vs *U 38*, 14 August 1916
9. *Penshurst* vs *UB 19*, 30 November 1916
10. *Perugia* vs *U 63*, 3 December 1916
11. *Penshurst* vs *UB 37*, 14 January 1917
12. *Farnborough* vs *U 83*, 17 February 1917
13. *Lady Olive* vs *UC 18*, 19 February 1917
14. *Warner* vs *U 61*, 13 March 1917
15. *Tulip* vs *U 62*, 30 April 1917
16. *Lady Patricia* vs *U 46*, 20 May 1917
17. *Pargust* vs *UC 29*, 7 June 1917
18. *Zylpha* vs *U 82*, 15 June 1917 (engagement on 11 June)
19. *Salvia* vs *U 94*, 20 June 1917
20. *Redbreast* vs *UC 38*, 15 July 1917
21. *Bracondale* vs *U 44*, 7 August 1917 (engagement on 5 August)
22. *Dunraven* vs *UC 71*, 10 August 1917 (engagement on 8 August)
23. *Bergamot* vs *U 84*, 13 August 1917
24. *Prize* vs *UB 48*, 13 August 1917
25. *Bradford City* vs *U 28**, 16 August 1917
26. *Vala* vs *UB 54*, 21 August 1917
27. *Stonecrop* vs *U 43*, 18 September 1917
28. *Peveril* vs *U 63*, 6 November 1917
29. *Candytuft* vs *U 39*, 18 November 1917
30. *Arbutus* vs *UB 65*, 16 December 1917
31. *Penshurst* vs *U 110*, 24 December 1917
32. *Westphalia* vs *U 97*, 11 February 1918
33. *Willow Branch* vs *U 153*, 25 April 1918
34. *Lowtyne* vs *UB 34*, 10 June 1918
35. *Stock Force* vs *UB 80*, 30 July 1918

* This was the Austrian *U 28*

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Q ship and U-boat losses, 1914–18							
Phase	**4 Aug 1914–17 Feb 1915**	**18 Feb 1915–30 Sep 1915**	**1 Oct 1915–30 Sep 1916**	**1 Oct 1916–31 Jan 1917**	**1 Feb 1917–9 May 1917**	**10 May 1917–11 Nov 1918**	**Total**
Steamer Q ships sunk by U-boats	0	0	1	1	3	19	24 (incl. 7 sloops)
Sailing Q ships sunk by U-boats	0	0	0	0	0	1	1
U-boats sunk by Q ships	0	6 (incl. 2 to trawler/sub combination)	1	2	2	1	12
U-boats sunk by Entente warships	2	3	1	2	3	25	36
U-boats sunk by mines, accident or unknown	5	6	13	6	7	86	123
U-boats sunk by submarines	0	0	3	0	2	11	16
Total	7	15	19	13	15	143	212

Some captains, like Herbert, were free to exchange vessels; almost all types could serve as Q ships and the Admiralty, fleet headquarters and Q ship captains debated as to which would serve best. Although there is no complete authoritative list, around 200 Q ships are known to have existed at one time or another, but the numbers constantly waxed and waned. However, when they were most needed – in the early years of the war – there were less of them.

In total, 187 German submarines were lost during World War I: a surprising 40 per cent due to accidents or unknown causes (reflecting problems mastering the new technology as well as difficulties proving the causes of losses), 20 per cent to mines (whether enemy or friendly), 10 per cent to depth charges, but only 7 per cent (12 U-boats) to Q ships. Most of these Q ship victories (two-thirds) occurred before the beginning of 1917, by which time U-boat losses totalled only 47 (of which more than half were due to accidents rather than to enemy action). That said, Q ships damaged, sometimes severely, many other U-boats – approximately 60. Germany was always going to be able to manufacture new U-boats faster than they were sunk, but losses of experienced U-boat personnel made an impact on the quality of crews later in the war.

Throughout 1915 and into 1916, Q ships performed well but destroyed few U-boats, because on average only around eight were at sea at any one time and German naval

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leaders were reticent about committing them under the limitations imposed by the Kaiser's government. However, proportionally the Q ships accounted for a high figure – six of 15 U-boats lost in the period February–September 1915 were sunk while on the surface, all by Q ships or trawler/submarine combinations. In the period August 1914–January 1917, anti-submarine vessels of all types sank only 14 submarines, and most of these successes were due to Q ships. It was difficult for anti-submarine vessels to detect a U-boat – for example, in one week in January in the Channel 570 such boats were patrolling, but none had detected three UB-class boats that had sunk 30 merchant ships between them. In September–December 1916, as more U-boats deployed – 96 boats were available in October 1916 – 1.25 million GRT of shipping was sunk and Q ship encounters increased. With 71 per cent of the attacks having been made on the surface, the Q ships found additional success.

By mid-1917, as U-boat commanders adapted to the conditions created by the Q ships' deceit, instances where a submarine was sunk by a Q ship were on the wane. Prize Regulations no longer needed to be abided by, and commanders could engage

UB 48, which accounted for *Prize*, was a UB III-type boat that was commissioned on 11 June 1917. Ten torpedoes were carried compared to only four in UB II-type boats. The type was extremely successful and was the forerunner of the Type VII boat, which would be the mainstay of the Kriegsmarine's U-boat fleet. Here *UB 149*, also a UB III-type vessel, can be seen coping with heavy Atlantic swells. (NARA)

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without inspecting cargoes. Although the safest option was to use a torpedo, U-boat captains often thought lone vessels did not warrant one; even so, they were suspicious of vessels sailing alone and would engage at long range – more commonly with their guns – until their target started to sink. However, in the period January–May 1917 – during the critical moment of the war on commerce – out of the 19 U-boats lost, three were sunk by Q ships (four were rammed, three were torpedoed by submarines, one was depth-charged by a destroyer, three were lost on mines, two foundered, two were lost due to unknown causes, and one was scuttled after being interned). During 1917, the Q ships' success became notorious in Germany and 19 Q ships were sunk by torpedo.

As more Q ships and submarines sailed the seas, the number of encounters increased: according to Messimer in the period February–December 1917, 86 were reported by U-boats (between August 1914 and September 1915, 11 had been reported, and between October 1915 and January 1917, 21). U-boats used gunfire on 56 occasions, which still gave Q ships a chance – in these gunnery duels two U-boats and four decoys were sunk; the remainder of encounters resulted in a draw, with the U-boat breaking off. Of the 30 torpedo engagements, only on seven occasions did the U-boat surface to carry on with gunfire; this resulted in three U-boats sunk, one other damaged so badly it was soon sunk by other means, and three quickly breaking off contact. Of the other 23 engagements, 13 decoys were sunk by torpedo. By the last quarter of 1917, any German reluctance to use torpedoes had been thoroughly expunged, in part by the reputation and danger presented by the Q ships; 88 per cent of all submarine attacks against merchant ships were by torpedo without warning. In May 1918, out of 1,108 new anti-submarine vessels ordered by the British Admiralty, only 36 were Q ships; 701 were drifters or trawlers.

Ships not protected by convoys were easy targets for German torpedoes. In mid-1917 the more passive but ultimately successful measure of guarding a convoy of merchant ships with an escort of warships was adopted. Their introduction ensured the goods merchantmen carried reached their destination and greatly restricted the losses U-boats

The Q ship suited the Royal Navy's preference for offensive action and showed a fighting spirit that invigorated the morale of the Navy and the British nation. The dramatic stories of an apparently innocuous merchant or sailing ship taking on the latest in military technology – the submarine – in combat continued to fascinate during the inter-war years; here, at the Royal Tournament, an engagement has been re-enacted. (Malcolmson)

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could inflict. This more defensive approach should always have been the Entente aim, and after the convoys were introduced the losses to merchantmen became sustainable, with new-builds matching losses by mid-1918. The adoption of convoys severely limited the impact independent Q ships could have. In 1918 only 11 encounters between a submarine and a decoy took place; the last was on 30 July 1918 and was won by the U-boat.

Although the size and role of the Q ship fleet diminished after the adoption of convoys, and especially in 1918, their overall contribution cannot be discounted. Early in the war, no other method seemed likely to deal with the German U-boat threat, and Q ships successfully filled a gap in Britain's ability to fight the commerce war. The achievements of the Q ships cannot just be measured in the numbers of U-boats sunk or damaged (which as a proportion of total losses was quite high), but also need to be appreciated in terms of how they influenced the approach of German commanders.

While many correctly hoped that some U-boats would initially be caught unawares and sunk, others soon realized that Q ships offered additional benefits. Once their operations became known to their adversaries, many U-boat commanders changed the way they went about their business, and perhaps this was the Q ships' real worth. Having thought they were invincible, during the early stages of the war in particular, the Q ship threat made U-boat commanders more cautious. U-boats needed to spend some time manoeuvring, knowing the intended victim might be a Q ship; this must have spared many merchant ships from attack. As the US Naval Historical Branch concluded, Q ships 'must have made it that much harder for U-boats to get into survivable attacking positions for fear the target might turn out to be a Q-ship. Hence many merchant ships could have been spared torpedoing or gun attack because Q-ships were at sea' (quoted in http://www.naval-history.net). By forcing the submarine to use a torpedo rather than guns, the Q ships ensured that the enemy submarine 'would have fewer chances of attack' (Campbell 2002: 291). Also, instead of closing to use gunfire or boarding to place a bomb on board, U-boat commanders would often elect to expend one of their torpedoes. Because early U-boats in particular could stow away only a few of these weapons (which were generally reserved for larger targets), their prolific use would force the U-boat to return to base earlier than expected in order to restock.

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AFTERMATH

During World War I, Allied losses to U-boats totalled some 5,000 freighters, tankers and sailing ships – in all, 11 million GRT of shipping was sunk. Some 4,849 German submariners lost their lives, which exceeded 40 per cent of the submarine service's personnel, and more than 15,000 British civilian merchant sailors were lost due to U-boat attack. The duel between the Q ships and submarines was unique because of the moral dilemma concerning what was permissible in war. Many accounts of submarine warfare in World War I appeared during the inter-war years, justifying the methods of both sides in what was a highly controversial type of fighting. Brassey's review of U-boat stories by Neureuther and Bergen, first published in 1931, noted how angry German U-boat crews were about Q ships, but thought this attitude unjustified and defended their use as 'an inevitable corollary to submarine warfare against merchantmen'. On both sides public opinion was outraged, their antipathy the consequence of the suffering unrestricted commerce war imposed, both on the military and civilian participants and also on the nation. In some cases, adversaries found some empathy with the other's experiences; N.M. Lewis and Ernst Hashagen recounted their experiences together to audiences. However, *Brassey's Naval Review* of 1931 pointed out that 'most naval officers used to wonder how the Germans found crews able and willing to run such fearful risks in order to prosecute a type of warfare which should have revolted all that was best in them'. Their answer was that 'no matter how barbaric a form of warfare may be, men can be found to wage it and, what is more, to develop a high esprit-de-corps in the process'.

On the southern front Austria-Hungary had 21 submarines and Germany shared basing facilities at Pola, Kotor and Istanbul with her Central Powers allies, enabling her to wage devastating commerce war here right through until the end of 1918. Some of the greatest U-boat successes were achieved here. On a single voyage Kapitänleutnant

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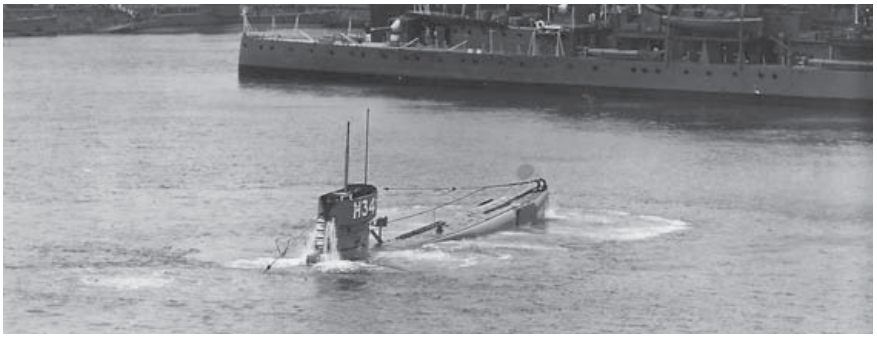
Lothar von Arnold de la Perrière, commander of *U 35* and Germany's leading U-boat ace of World War I, accounted for 54 Entente steamers. In all, he sank 224 ships for a total of 540,000 GRT of shipping destroyed. Q ships operated against such vessels, but with little success.

Some submarine commanders would go on to serve as admirals in World War II. According to *Brassey's Naval Review* of 1931, the strategic lesson that they took away from World War I was that

> a humane blockade is only possible by a power which commands the sea. Failing that, the raider must sink her victims and be gone, and in the long run it makes little difference whether she is a submarine or surface ship. Moreover, this type of blockade knows no limits in ruthlessness. Neutral shipping and belligerents are all alike involved, because no search is possible.

The future application of submarines in an unrestricted commerce war in the next conflict was undeniable. Brassey's concluded that 'it is certain that if there is another war, Great Britain will be faced with a similar attack on her trade … The importance of the submarine is that it makes a blockade on these lines technically more menacing, and therefore it is certain to be practised again'. In early 1917 one far-sighted U-boat commander, Fregattenkapitän Hermann Bauer, suggested greater coordination of attacks. Under his plan, large submarines would patrol the oceans, transmitting target information to hunting groups of U-boats – a precursor to the effective 'wolf packs' of World War II. However, Bauer was relieved of command that June and his concept went no further, until developed during the inter-war years.

For the Q ships there was to be another outing. On Churchill's orders Campbell was tasked with finding half a dozen ships for overseas routes and three for home patrol. However, they were to entice surface raiders as well as submarines and were not equipped with ASDIC. This device transmitted a sound wave, which rebounded on a submerged object and was picked up by a receiver; without it Q ships had to rely on other vessels to locate submarines. At this time U-boats were using torpedoes rather than surface guns and a couple of Q ships were sunk early in 1940. Ordered to send another couple of Q ships to Norway, Campbell refused because his ships were not equipped to defend themselves against aircraft, and resigned. In September 1940 all remaining decoys were turned into armed merchant cruisers. The era of the Q ship in total war was at an end; however, the use of subterfuge in naval warfare goes on.



By 1939 the *modus operandi* of Q ships, because of inter-war publicity – helped by memoirs and press coverage of some of the notable captains and submarine commanders – was well known. Here an engagement between a Q ship and a real submarine has been staged for the public during a show called 'Navy Days'. In a film about the Q ships, a British submarine was actually sunk. (Malcolmson)

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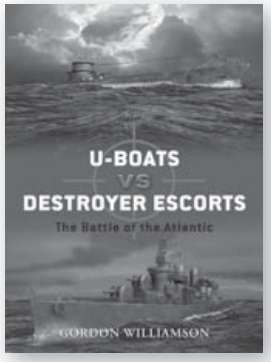

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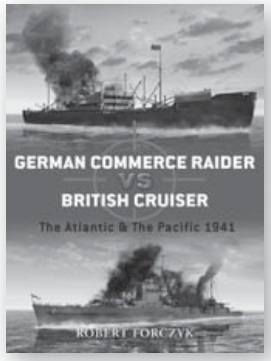

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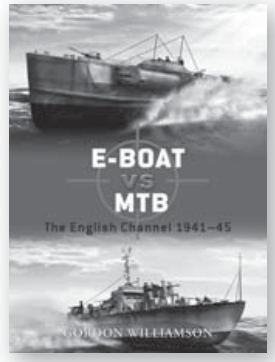

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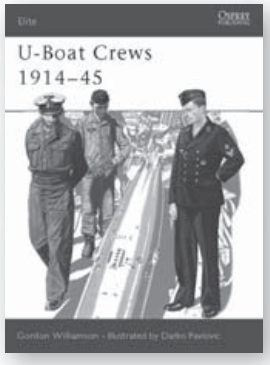

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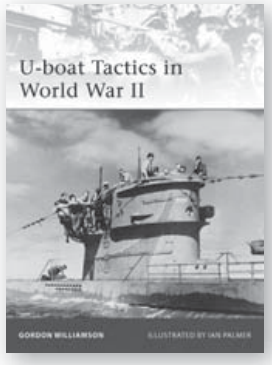

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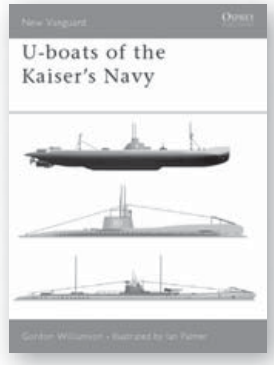

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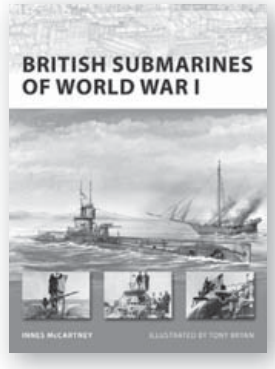

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1 mile = 1.6km
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The Publishers regret that they can enter into no correspondence upon this matter.

Comparative ranks

British	**German**
Admiral of the Fleet	*Grossadmiral*
Admiral	No equivalent
Vice-admiral	*Admiral*
Rear-admiral	*Vizeadmiral*
Commodore	*Konteradmiral*
Captain	*Kapitän zur See*
Commander	*Fregattenkapitän*
Lieutenant-commander	*Korvettenkapitän*
Lieutenant	*Kapitänleutnant*
Sub-lieutenant	*Oberleutnant zur See*
Acting sub-lieutenant	*Leutnant zur See*
Midshipman	*Fähnrich zur See*
Chief navigating warrant officer	*Obersteuermann*
Navigating warrant officer	*Steuermann*
Chief petty officer	*Stabsoberbootsmann*
Chief petty officer	*Oberbootsmann*
Petty officer 1st class	*Stabsbootsmann*
No equivalent	*Bootsmann*
Petty officer 2nd class	*Oberbootsmannsmaat*
Engine room petty officer 2nd class	*Obermaschinistenmaat*
Petty officer 3rd class	*Bootsmannsmaat*
Engine room petty officer 3rd class	*Maschinistenmaat*
Leading seaman	*Mat-Stabsobergefreiter*
No equivalent	*Mat-Stabsgefreiter*
No equivalent	*Mat-Hauptgefreiter*
No equivalent	*Mat-Obergefreiter*
Able seaman	*Mat-Gefreiter*
Ordinary seaman	*Matrose*